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* Refers to the number of retail software products sold according to monthly analysis by Media Control Germany (PC/CD-ROM non-games Germany according to the VUD criteria); GfK charts Netherlands, Belgium, France, Italy, Spain; Chart Track UK; NPD Data Charts PC/CD-ROM non-games US. January 2005 to March 2006.

PCHome EDITOR'S CHOICE

PC Home UK 159/2005
Award: "Editor's Choice", "Features: 5/5", "Value for money: 5/5", Verdict: "Enormous collection of instruments and audio files", "Music Maker will please both beginner and advanced digital musicians on a budget." This award refers to the previous UK version MAGIX Music Maker 2005 deluxe.

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FIX IT FOR FREE

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HP iPAQ hx2495

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Once pegged as The Next Big Thing, Tablet PCs didn't immediately take off. But it seems as though they're now garnering a larger fan base.

Editor's Note: Shareware, Freeware & Otherware

We'd better define a few terms right off the bat because, as happens with all tech-related terms, the definition of the word "shareware" is changing.

According to the classic definition, shareware is software that the programmer lets you download and use with no restrictions, relying on the honor system to get paid. This boils down to the programmer or (very small) company saying, "Here, try this out. If you like it, send us some money; $30 would be nice."

Freeware, on the other hand, is truly and completely free; you get it either from a programmer who wishes to share his work or from a company that's willing to give away single-user applications in the hopes of future sales of more sophisticated versions aimed at commercial users. Zone Labs' free ZoneAlarm firewall and Lavasoft's Ad-Aware antispyware applications are popular examples of good freeware; millions of people use these two applications daily, and none of those users paid—or need ever pay—a penny for them. (Unless they choose to upgrade to the "Pro" or commercial versions, of course.)

A third category of software is, technically, neither shareware nor freeware. This is "try before you buy" software that offers some sort of limited functionality: Either the application's feature set is incomplete, or else the software works only for a given period of time; if you want the "full" (i.e., working) version, you have to pay up.

Oddly enough, it's this last category that more and more people are now calling shareware. Basically, it's really a demo or "eval" version, but if gazillions of people want to refer to it as shareware, well, it's OK with us. (They're wrong, of course, but if that's how they want it. . . .)

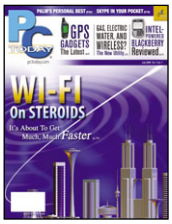
In the end, it doesn't much matter what we call it. It boils down to the fact that you can find good, reasonably-priced (sometimes free) software on the 'Net and you can use that software to clean up, maintain, or secure your computer. And no matter how you look at it or what you call it, saving money while you improve your PC's performance can't be a bad thing.

Rod Scher, Publication Editor

Now Available On Newsstands . . .

Computer Power User* * Lock It Down

If like us you aren't satisfied simply relying on the leading security software to protect your PC, get some tips for a more proactive, hands-on approach to security in this month's issue of *CPU*.



***PC Today* * Wi-Fi On Steroids**

Just when you started getting used to Wi-Fi (the popular name for 802.11b and its siblings) and wireless hotspots, along comes a new standard: 802.11n, which promises greater speed and coverage. This month we examine the upcoming standard.

***First Glimpse* * So You Want To . . .**

If you want HDTV, but don't know where to begin, you're not alone. In this month's issue of *First Glimpse*, we give you a complete guide on what you need to know to shop for and enjoy HDTV, a DVR, an iPod, and much more. Plus, we have the scoop on the coolest MP3 players for tweens, and we'll also give you guidelines on how your child should use them. And finally, our tips on properly organizing and storing photos will free up space in everyone's desk drawers.

***Reference Series* * Xbox 360**

Gamers are rejoicing now that Xbox 360 systems are widely available at retail stores. Microsoft's latest console is the most powerful one on the market, and with its enhanced graphics and online capabilities it offers users new levels of realism and multiplayer excitement. Whether you're a gaming novice or an experienced cyber athlete, this complete guide to the Xbox 360 will help you make the most of your game play.

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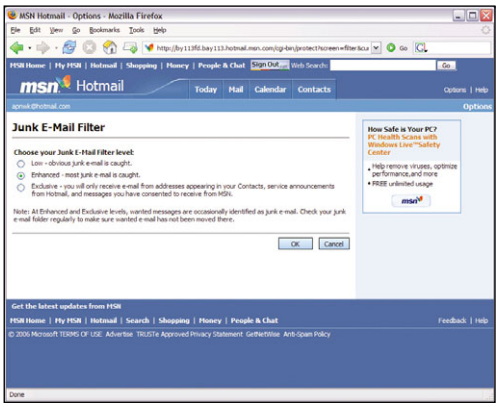

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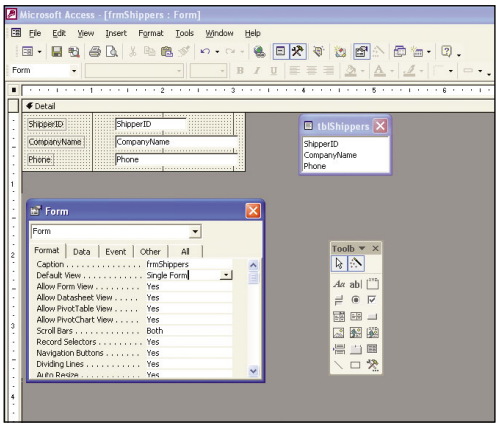

Microsoft Access

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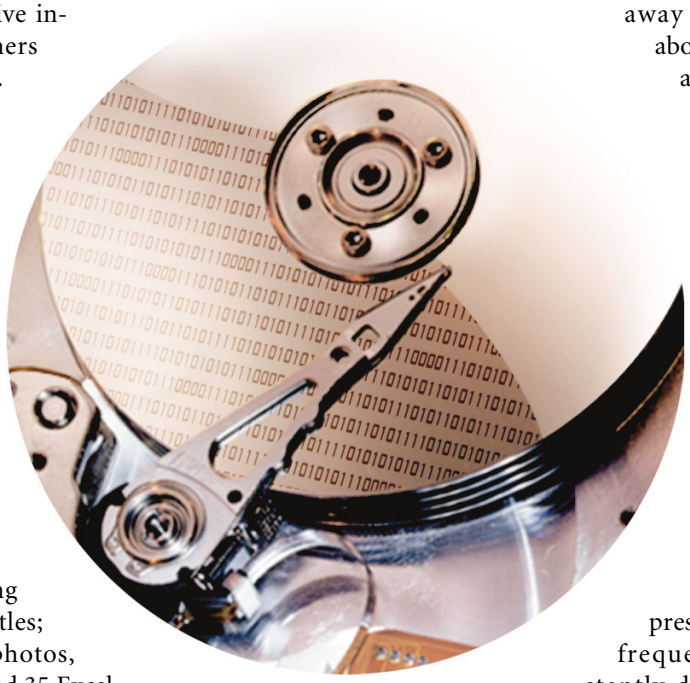
DESKTOPS & LAPTOPS

Ditch Your Computer, Not Your Data

Before selling, donating, or recycling an old computer, users should think twice about what's leaving their hands. According to a study by Symantec, many people get rid of computers without wiping their hard drives, thereby leaving hordes of sensitive information for new owners or scavengers to discover.

Symantec inspected five used computers and found Social Security numbers, banking information, detailed company data, and other tidbits that the previous owners likely didn't realize would end up gracing monitor screens once again. For instance, one PC contained a company organization chart listing employee names and titles; personal files such as photos, 131 Word documents, and 35 Excel spreadsheets; as well as an Outlook file that yielded plenty of sent messages (421, to be exact) and six draft messages.

Other computers examined by Symantec contained even more sensitive information, including employee information complete with Social Security numbers and addresses; bank account records complete with balances and account numbers; confidential real estate transaction information; résumés with personal, insurance, and salary information; and IM (instant messaging) chat logs. Potentially embarrassing data also was found, including adult-themed pictures and adult-related usernames and passwords.



Most experts recommend using a hard drive-erasing program to completely destroy data remaining on computer hard drives before selling them or giving them away. These programs let users boot their computers using a floppy diskette that erases all content on the hard drives, including the Windows installation. Although Symantec suggests leaving the OS (operating system) intact if the owner plans on donating the computer, owners are nonetheless better off deleting the OS if they aren't certain where to find sensitive data within the many folders Windows creates.

Leaving sensitive information on computers that owners sell or give away is one thing, but what about notebook owners who are victims of theft? New products on the market can automatically wipe out or even destroy a hard drive if it is stolen or lost. Dead On Demand hard drives from Ensconce Data Technology (www.ensconcedata.com), for example, provide instant, remote destruction of data if a certain type of intrusion is detected.

For example, users can press the included RF (radio frequency) controller to instantly destroy the hard drive's data from anywhere within 100 feet of the drive. The hard drive also can be set to self-destruct if the notebook is simply picked up or if it detects a case intrusion. An optional GPS (global positioning system) feature even lets users select a distance beyond which the drive will self-destruct, while an optional cellular interface lets users call the hard drive and enter an activation code to begin the data destruction.

STORAGE

Move Over, Blu-ray

Just as we get ready to welcome high-capacity Blu-ray media and devices into our homes, competing standards are already crawling out of the woodwork. But will they have what it takes to unseat the yet-to-be-seated Blu-ray?

VCDHD (Versatile Compact Disc High Density), introduced by Ukraine's Sprout CD, Russia's Antrop-Studio, and Dutch-based VDL ODMS, holds only about 4.7GB per disc, or the same as a single-sided DVD, but it does feature benefits over traditional DVD media. For example, the discs are half as thick as DVDs, don't cost as much to manufacture, and feature other geometry-related improvements that help decrease errors. According to initial reports, each VCDHD disc will take only two seconds to produce compared to the six to nine seconds required for DVDs.

Also on the horizon is PH-DVD (Polar High-definition DVD), which could improve upon the data storage capacity and read rate of DVDs by up to three times. According to Brainspark, which recently invested in Polarizonics, the company that developed the technology, PH-DVDs exploit "the polarization element contained in all current DVD formats [that] is not being used for the physical encoding of the information on the disc." Unlike VCDHD, which appears to be a DVD competitor, PH-DVD media could eventually hold more than 100GB, possibly positioning the technology as a direct challenger to Blu-ray.

DISPLAYS

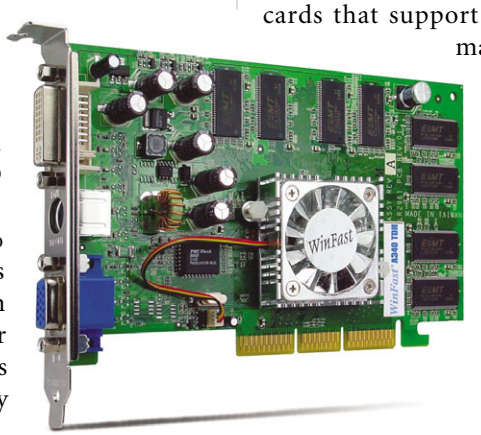
Double The Displays, Double The Productivity

If you've been tempted to add another monitor to your computer, a recent study by Jon Peddie Research might just push you to do it. Sure, multimonitor configurations certainly *look* cool, but this study appears to confirm that they're actually pretty darn useful, too.

The study, which examined the multiple display market and consumer attitudes, found that consumers estimate a whopping 42% increase in productivity when using multiple monitors while performing tasks ranging from content creation and general office use to gaming and CAD (computer-aided design) applications.

Of the consumers surveyed, 32% were currently using multiple displays and 55% said they want to or plan to use multiple monitors in the near future. Of course, multiple monitors aren't feasible for all users, and the study noted that obstacles include price, desk and office space, heat, noise, radiation, as well as confusion surrounding the use of multiple displays.

The study also comments on the curious lack of marketing by video card manufacturers when it comes to multiple monitors. Whereas dual-head cards (that is, cards that support two monitors) were rare years ago, many of today's cards have dual heads but don't do much to advertise the feature. According to Peddie Research, card and chip companies treat multimonitor capability as an "oh, by the way" benefit.



Many of today's video cards, such as this WinFast A340 TDH card from Leadtek, include the ability to connect two monitors to a single PC, which can greatly improve user productivity.

PRINTERS & PERIPHERALS

High-Tech Typing

The evolution of keyboards has seen these devices shrink from mammoth-like boxes to sleek, flat slates to foldable and even roll-up units. The evolution continues with the Virtual Keyboard from VKB, which gives new meaning to the term "light keyboard."

The Virtual Keyboard is actually a small device that projects a full-sized computer keyboard onto any flat surface using laser and infrared technology. The user's finger movements are observed and interpreted by the device, which translates those movements into actual keystrokes and then communicates with the computer accordingly.

Light is projected from a unit that's powered either by a rechargeable Li-Ion (lithium-ion) battery or an AC adapter, and adjustable timeouts let users conserve the keyboard's battery life. Users also can select and control keyboard sound effects, as well as the intensity and sensitivity of the projected keyboard. According to user feedback on the Web, the keyboard works well as long as the room's ambient light isn't too bright, so we'd imagine the Virtual Keyboard works best in indoor environments.

VKB's Virtual Keyboard uses laser and infrared technology to project a full-sized, useable keyboard onto any flat surface.

In addition to a Bluetooth model that works with a wide range of mobile devices and other computers with Bluetooth capability, a serial connector model also is available. Either model is $199 and available from www.virtual-laser-keyboard.com.

CPUs, CHIPS & CARDS

Intel Boosts Video Technology

Integrated graphics chipsets have historically left much to be desired in the performance department, but new technology from Intel might change that notion. The company's G965 chipset will feature improved 3D capabilities, and according to some sources, it'll include DirectX 10 technology.

Developers of integrated graphics usually have a tough time keeping pace with video technologies from such companies as Nvidia and ATI Technologies and thus, they tend to market their devices to the low-end markets. However, the inclusion of DirectX 10 in the G965 chipset could help Intel break into (at least) the midrange video market, though the chipset likely won't keep pace with higher-end models from Nvidia and ATI.

The chipset could make a potential splash with PCs sporting Intel's Viiv platform, which consumers are still waiting on to make good on initial promises to transform multimedia computing. Also included with the G965 chipset is 16X anisotropic filtering, 32-bit floating-point calculations, and the hardware decoding of high-definition video streams.

Even for nongamers, Intel's move toward more powerful integrated graphics should spark some interest. If the company's new chipsets can make leeway into previously uncharted territory, Nvidia and ATI would likely lower their prices on competing chipsets—an event that could, in turn, lower prices on graphics cards and computers.

DIGITAL MISCELLANEA

Lights, Camera, Action

At the start of the broadband age, free image-hosting sites became all the rage, letting anyone and everyone post their experiences in digital, yet static, form. Now that broadband has kicked into overdrive, image hosting has given way to free video hosting, with new videos being uploaded by the second.

Thanks to Web sites such as YouTube (www.youtube.com), Google Video (video.google.com), and Metacafe (www.metacafe.com), aspiring directors now have an outlet to demonstrate their talents, though the large majority of popular videos aren't exactly Oscar-caliber material. In addition to user-created content, these services provide huge repositories of televised and other video clips, including documentaries, historical footage, and educational material.

The sites allow unregistered visitors to search uploaded videos by keyword and watch them for free, and with a broadband connection, the quality and speed is impressive. Uploading options are similarly impressive; for example, registered Google Video users can submit video files of any length and size. Plus, Google offers a premium program that caters to major producers with 1,000 or more hours of video, video that's been shown on TV networks, or video distributed by major motion picture studios.

For the casual visitor, YouTube offers categorized links such as Most Recent, Most Viewed, Most Discussed, Top Rated, and Random, whereas Google Video breaks down submissions into Comedy, Music Videos, Sports, and others.

Web sites such as Google Video and YouTube continue to open doors for would-be video directors and archivists alike.

PROBLEM-SOLVER: TROUBLESHOOTING THE NEWS

I installed a second hard drive, but it doesn't appear in Windows Explorer.

Because your PC's BIOS (Basic Input/Output System) should automatically recognize a second hard drive, an unrecognized drive usually means that the drive cable isn't properly connected (to the drive itself on one end and to the motherboard or other hard drive on the other end). Another possibility is that the jumper settings on the back of the drive are incorrect, so be sure to double-check them, as well.

I installed a second monitor, but when I turn it on, there's no display.

Assuming your second monitor is properly connected to your video card and plugged into an electrical outlet, you'll just need to make an easy change in Windows' Display Properties dialog box. Right-click an empty spot on your Desktop, click Properties, and choose the Settings tab. Select the box marked "2" and then select Extend My Windows Desktop On This Monitor. Click OK to confirm the change.

My printer is printing ink blots on my pages. What can I do to fix it?

Many modern printers include self-cleaning utilities that you can enable in your Windows printer settings, but if your printer's utility doesn't solve the problem or if it doesn't include a self-cleaning utility at all, you'll need to manually clean your ink cartridges using a clean, damp, lint-free cloth.

My CPU temperature-monitoring tool reports high temps, even though I have a powerful fan and heatsink.

If your CPU fan and case fans are operating properly and your case has efficient airflow, you might try reinstalling your CPU heatsink using a more efficient thermal compound, such as Arctic Silver (www.arcticsilver.com).

CONVERGENT TECH: PDAs & SMARTPHONES

Motorola Devices Trim Your Phone Collection

Convergence continues to scale new heights of sophistication, as evidenced by a new family of products recently announced by Motorola that aims to give users more streamlined control over their mobile and standard phones.

The company's new RSG2500 and RSG3500 (RSG is short for Residential Seamless Mobility Gateway) combine both landline and mobile phone functionality into one device that connects to any broadband Internet connection. Along with one of these RSG units and a compatible dual-mode mobile handset, users can make and receive both landline and mobile calls using a single phone that roams the Wi-Fi network.

"Consumers today want the flexibility of a single number and handset that can be used both in and out of the home and a solution that can bridge digital phone services," said Charles Dougherty, Motorola corporate vice president and general manager, Connected Home Solutions, in a statement. "This latest Motorola innovation breaks traditional concepts of personal communication without sacrificing ease of use or functionality."

These gateways include an 802.11b/g access point, 4-port router, and a built-in VoIP (Voice over Internet Protocol) adapter, so either of the units can replace current home wireless network devices. Because the dual-mode phone uses the Wi-Fi network, users no longer need to worry about spotty mobile connections throughout the house, though we imagine Wi-Fi range limitations could cause potential connection problems, particularly as users walk farther from the access point.

For consumers, these convergence-centric devices could result in reduced cellular bills because the cellular network is offloaded when calls are made from the dual-mode handset via the RSG. The devices feature power optimization technology that prevents serious handset battery drain because the RSG sends data at infrequent intervals and allows the handset to enter a sleep mode when not in use. The devices also give higher prioritization to voice traffic than data, which lets users send and receive high-quality voice transmissions even while using the Internet.

Motorola expects to release both products this year, with the RSG2500 hitting the market first. The RSG3500 provides the same functionality as the RSG2500 but adds up to two lines of primary-line VoIP telephone service. Users will find all the usual telephony features in both models, including caller ID, call waiting, three-way calling, and call forwarding.

This nifty device from Motorola blends both mobile and landline phone functionality in one unit that lets users send and receive calls over their Wi-Fi networks.

DULY QUOTED

"If you say you're going to do something and you start to do it, and people enjoy it or respect it or are entertained by it, people will step up and help you."

—Kyle MacDonald, who (at the time of this writing) is receiving a year of free rent on a Phoenix house by initially trading a paper-clip on the Web, explains what he thinks is the motivation behind other traders.

(Source: Associated Press)

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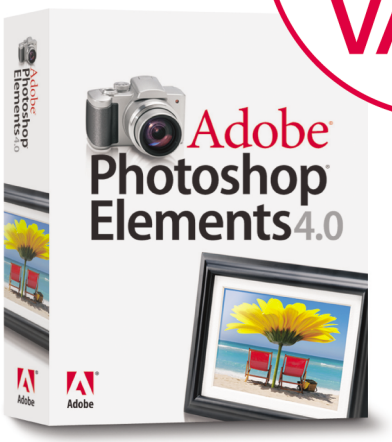

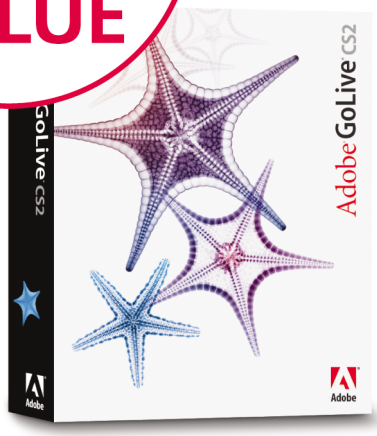

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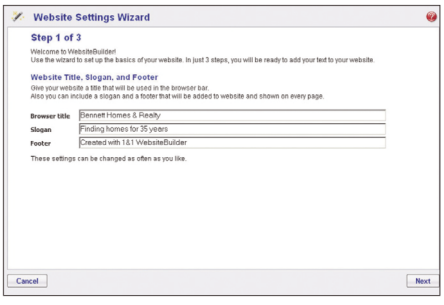

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Mailbox Size	2 GB	2 GB	10 MB
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Flash Site Builder	18 Pages	–	–
Photo Gallery	✓	✓	✓
Geographic Map	✓	✓	–
Driving Directions	✓	✓	–
Dynamic Web Content	✓	✓	–
Web Statistics	✓	✓	✓
E-mail Newsletter Tool	✓	$10/month	$9.95/year
In2site Live Dialogue	✓	–	–
Chat Channels	✓	–	✓
Form Builder	✓	✓	–
Database	50 MySQL	MySQL Support	50 MySQL
Search Engine Tools	✓	Extra Charge Applies	$29.95/year additional
Premium Software Suite	✓	–	–
90-Day Money Back Guarantee	✓	–	–
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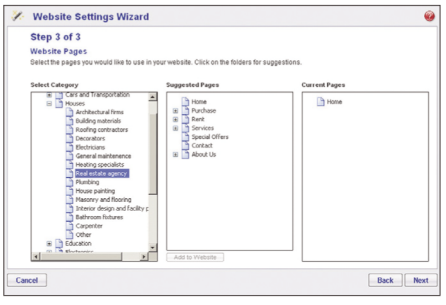

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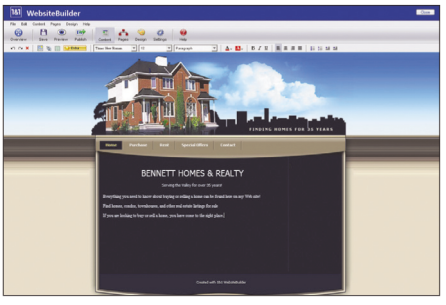

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News From The Help Desk

Most Popular & Timely Tech Calls

COMPILED BY KYLEE DICKEY

Each month, we receive numerous technical support calls and email messages. Some computer problems are fairly common, and we find that many callers struggle to resolve the same issues. In this article, we cover five of the most common or timely tech support questions and provide our solution for each of them.

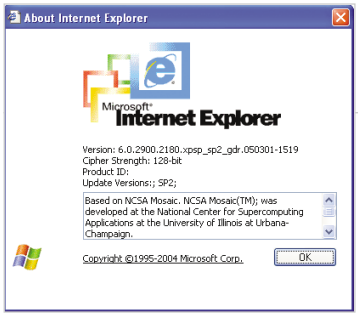
Q What information should I have on hand before I call for tech support? I'd like to receive an answer to my problem as quickly as possible.

A One of the most important things you can do before you call tech support is write down the *exact wording* of an error message. For example, there are many things that may cause an error when you launch Internet Explorer, but if we know that the error message is "Explorer caused an invalid page fault in module Kernel32.dll," we can search our database of error messages to determine what causes this error.

There are other things you can jot down that also will help speed up the process. First, if you're having trouble with a specific program, find out which version is installed. In most programs, you can find the version number by launching the program, opening the Help menu, and clicking About [Name Of The Program]. The resulting dialog box usually lists the program name followed by the version number. In addition, take note of which Windows version you have installed. If any other software was running when you encountered the error, make sure you note that, too. Also, take a moment to consider when the problem started and whether you installed any new hardware or software before the problem began.

Besides documenting all of these things, you should try to restart your PC before you call tech support. Often, a problem resolves itself after your system restarts. And even if this step doesn't fix the problem, you can at least tell us you've already tried restarting your PC so we can proceed to diagnosing the problem rather than waiting for your computer to reboot.

By collecting clues and trying a few of these suggestions first, you can reduce the amount of time you spend on the phone and help our "tech support detectives" solve your computer mystery faster.



After you launch a program and click Help and About [Name Of The Program], you can usually see the version number listed in a dialog box similar to this.

Q My Internet Explorer Address Bar is gone! Where did it go?

A This is usually a simple problem to fix. More often than not, you just need to check IE's toolbar settings. Open IE's View menu and choose Toolbars. From the submenu, make sure Address Bar has a check mark next to it. If there isn't one, select Address Bar to solve the problem.

If the Address Bar is enabled but you still don't see the Address field appear in the IE window, you'll need to edit the Registry. You should use caution when doing this because improper changes to the Registry can make your computer stop working. That's why it's a good idea to back up the Registry before you make any changes. If you need help doing this, you'll find instructions in our Tech Support Center. Go to SmartComputing.com and click Tech Support Center (at the top of the home page). In the Enter A Subject To Search By field, type **backup Registry**. Under Additional Results From General Editorial Archive, you should see an article titled "Windows Registry For Beginners." Click the link to use the article's instructions (in the Back Up & Restore The Registry section) for creating a Registry backup.

To restore IE's Address Bar, open the Start menu, click Run, type **regedit** in the field, and click OK. In the Registry Editor, find HKEY_CURRENT_USER. Click the plus sign (+) next to HKEY_CURRENT_USER so you can view its contents. Find Software in this list and click its plus sign. Then, make sure that the lists are expanded for Microsoft, Internet Explorer, and Toolbar. Under Toolbar, you should see a key named WebBrowser. Right-click WebBrowser, click Delete, and click Yes. Close the Registry Editor. Now launch IE and make sure the Address Bar is back in place.

Q How can I tell if it's time to replace my hard drive?

A There are several things that can test a hard drive's condition, including some built-in tools in Windows. In Windows 98/Me, use the ScanDisk utility; in Windows 2000/XP, use the Analyze function of Disk Defragmenter.

To launch ScanDisk in Win98/Me, close all open programs (including those running in the background) and then click the Start menu, Programs, Accessories, System

Tools, and ScanDisk. Select the hard drive in question and choose the Thorough option. (The Standard scan will check for errors on the hard drive but not for physical problems with the drive itself.) Click the Start button. A drive scan often takes more than an hour, so you may want to perform such a task when you have other things to do while you wait to use the computer again.

To check your hard drive's condition in Win2000/XP, click the Start menu, Programs (in Win2000) or All Programs (in WinXP), System Tools, and Disk Defragmenter. Make sure the drive you want to check is highlighted under Volume and then click the Analyze button. Wait for Disk Defragmenter to complete the analysis, which should only take a few moments.

You also can use special drive utilities to check your hard drive, including Norton SystemWorks 2006 Basic ($49.99; www.symantec.com). Plus, consider using any diagnostic tools that came with your hard drive or those that are available to download from the drive manufacturer's site. For instance, Western Digital (www.westerndigital.com) offers Data Lifeguard, a group of diagnostic utilities that can diagnose problems with the company's hard drives.

Regardless of which utility you use, it should provide a diagnostic report that indicates any errors it found, any errors it fixed, and any errors it couldn't fix. If the utility finds several serious errors that it could not fix and/or cannot suggest steps for you to take to fix the errors, or if the utility indicates that there is a hardware failure, it is time to get a new hard drive. Hopefully, with early detection, you can still transfer the contents of your drive to a new location and save your data.

Q I can't open my CD/DVD drive. What can I do?

A Most optical drives have some way to open them manually if the Eject button doesn't work. Check your computer's or optical drive's documentation to see if there's an alternate way to open the drive. One of the most common things drive manufacturers do is put a tiny pinhole on the side of the optical drive's tray. Other manufacturers may place a larger hole under the disc tray instead. For both scenarios, you just need to insert a thin object (such as the end of an unbent paperclip) into the hole to open the drive. Other drive manufacturers provide a special tool for opening the drive in case of an emergency.

Occasionally, an optical drive's tray may work after you unplug the IDE (Integrated Drive Electronics) cable from the back of the drive (but leave the power cable connected to the drive) and press the Eject button again.

If all of these suggestions fail, you can sometimes grab the edges of the disc tray and carefully pry the tray open. Then, once you get the tray open, you can remove the disc, which likely is the source of the problem. In many cases, a warped disc or one that has a label that's unpeeling is what caused an optical drive's tray to become stuck in the first place.

Q The Norton AntiVirus icon in the System Tray has a red "X" through it, and Norton AntiVirus' Auto-Protect feature no longer works. How do I fix this?

A According to Symantec, you should first try to reset the file. In Win2000, simply restart your computer. In Win98/Me/XP, open the Start menu, click Run, type **msconfig** in the Open field, and click OK. Next, click the Startup tab in the resulting System Configuration Utility window. If there isn't a check mark next to ccApp, select its checkbox, click Apply, and click OK. Then restart your computer.

If the problem persists, you should first disable and then re-enable the Auto-Protect feature. To do this, launch Norton AntiVirus, open the Options menu, and click Norton AntiVirus. Under the System heading, select Auto-Protect and deselect the Start Auto-Protect When Windows Starts Up (Recommended) checkbox. Click OK and restart your computer.

After your computer restarts, launch Norton AntiVirus, open the Options menu, and click Norton AntiVirus again. Under the System heading, select Auto-Protect, select the Start Auto-Protect When Windows Starts Up (Recommended) checkbox, and click OK. Restart your PC.

If Auto-Protect still doesn't work, you probably need to reconfigure your firewall. The settings and procedures for this process vary, depending on which version of Norton AntiVirus you have, so check your Norton AntiVirus documentation for details.

Feature Package Topics

Each *Smart Computing* issue includes tips, reviews, and information about a variety of topics. However, each issue also has a featured group of articles about a selected topic. Below is a list of the Feature Packages from the previous year. As a *Smart Computing* subscriber, you have access to all of our archived articles at www.smartcomputing.com.

July 2005	Digital Photography—50 Great Tips From The Pros
August 2005	Our Favorite Windows Tips & Tricks
September 2005	Fix The 50 Most Annoying PC Problems
October 2005	Get The Most From Your CDs & DVDs
November 2005	Solve The Wireless Puzzle
December 2005	Our Annual Holiday Buyer's Guide
January 2006	Troubleshoot! Solve Software Problems
February 2006	What's Slowing Down Your PC?
March 2006	Reinstall Your Operating System
April 2006	Protect Yourself Against Viruses & Spyware
May 2006	Vista vs. XP
June 2006	How To Restore Your PC

Too Hot To Handle

A Cool PC Is A Happy PC

Joshua Gulick

Send your comments to joshua@smartcomputing.com

Heat can cause all kinds of computer errors and even destroy some of your PC's most sensitive components. And, wouldn't you know it, those same components generate a ton of heat. PC builders rely on **heatsinks** (metal blocks that have long, thin fins) and fans to pull heat from these parts and then funnel the warm air out of the computer. If you suspect heat is causing your computer woes, you may be able to fix the problem by replacing your CPU's heatsink with a better one.

Antec Gets Cool

Antec is a well-known PSU (power supply) builder. I've used plenty of its products, but until now, I haven't used an Antec heatsink, so I decided to check out the Performance CPU Cooler to see if Antec handles heatsinks as well as it handles PSUs. In particular, I wanted to determine if it is easier to install than other heatsinks, as well as whether it is cooler and quieter than the heatsinks that accompany retail processors.

Unlike many heatsinks that handle only certain types of CPUs, the Performance CPU Cooler supports a bunch of processors, including the latest AMD and Intel processors and several older models. The heatsink is almost entirely aluminum. Copper dissipates heat faster than aluminum, but copper heatsinks are more expensive than their aluminum siblings. However, the Performance CPU cooler has copper heat pipes that run through the heatsink's aluminum fins, shuttling additional heat away from the processor.

Swapping Heatsinks

I kicked off the test fest by installing a 2.4GHz AMD Athlon 64 4000+ processor into an ASUS A8V-e Deluxe motherboard. I applied a thermal paste to the processor and affixed a small temperature probe next to (but not directly on) the CPU. The motherboard included a backplate and a plastic support for the heatsink, so I installed the processor's included aluminum heatsink by placing it onto the support and then pushing the heatsink's clip into place. That wasn't as easy as it sounds—I had a tough time forcing the stiff clip with my thumb.

Although I spent more time preparing and attaching the Performance CPU Cooler, I'd rather install it than the traditional clip-heatsink any time. The heatsink has two separate bases, which is why it supports so many types of processors. I used the included screws to attach the base and unscrewed the plastic support from the motherboard. I also installed the CPU Cooler's backplate, but I could have screwed the heatsink into the motherboard's backplate without removing the motherboard. Next, I placed the heatsink onto the CPU and attached the screws to the backplate, all without hurting my thumbs. It's worth noting that the heatsink's screws, which have special springs, are already attached to the heatsink bases, which meant I didn't need to fumble with a bunch of tiny pieces to put the heatsink in place.

Cool It

I ran two CPU-stressing benchmarks (which heated up the processor) and then recorded my temperature probe's readouts. The Performance CPU Cooler kept the CPU several degrees cooler than the OEM (original equipment manufacturer) heatsink, even during benchmarks that sent the CPU into a number-crunching frenzy. In the thick of the benchmarking, the OEM heatsink kept the processor at about 108 degrees Fahrenheit, whereas the Performance CPU Cooler cooled the processor to about 101 degrees Fahrenheit. That's a sizeable drop.

Final Word

The Performance CPU Cooler is worth its $29.95 price tag. It's quieter than my CPU's included heatsink, and it keeps the processor much cooler. To top things off, you can install it almost as quickly as you'd install the OEM heatsink. I might stick with the OEM heatsink if I were building a computer, but I'd definitely buy the Performance CPU Cooler to cool a PC's that's already overheating.

Performance CPU Cooler
$29.95
Antec
(800) 222-6832
(510) 770-1200
www.antec.com

Bluetooth Audio Freedom

Logitech Wireless Headphones For MP3

Chad Denton

Send Chad your opinions at chad@smartcomputing.com

The last time my wife saw our offices, she noted the headphones lying on nearly every desk. Headphones have been a bit of tradition here for as long as I've been with *Smart Computing*, but with the tech support desk ensconced in the middle of us writers and editors, headphones are even more of a necessity: It's hard to write when the person across the aisle is trying to walk someone through reinstalling Windows.

Considering that podcasts are my at-work audio distraction of choice, my cheap $10 pair of headphones work fine. If I have any complaint about my headphones, it's the cord, which always seems to get tangled. Enter Logitech's Wireless Headphones For MP3.

Compatibility

Logitech offers a couple of wireless headphones. The Wireless Headphones For iPod are compatible with Apple's 3G iPod, iPod mini, and iPods with color displays and include integrated controls for volume and playback. Unfortunately, these headphones aren't compatible with Apple's new fifth-generation iPods (the ones that can play video) or Apple's new iPod nano, and they aren't compatible with other MP3 players. The Wireless Headphones For MP3, which I took a closer look at, are compatible with any MP3 player.

Wireless Headphones For MP3
$129.99
Logitech
(510) 795-8500
www.logitech.com

The headphones come with a transmitter that plugs into a standard headphone jack. The transmitter adapts to fit most portable audio players. You can set the plug in the middle of the transmitter or move it to the side of the transmitter, depending on the device. Unfortunately, the Tungsten E I used with the headphones had a rounded top that prevented the transmitter from plugging directly into the device. The transmitter includes a small cable for such situations. While this works, the Tungsten E is definitely harder to carry around with a Bluetooth transmitter dangling from the headphone jack.

Bluetooth

The transmitter sends audio to the headphones via Bluetooth. To establish the Bluetooth connection, press the connect button on the headphones until the blue LED (light-emitting diode) begins flashing. Press the connect button on the transmitter until the transmitter's LED begins flashing. A second later, the transmitter's LED should turn a solid blue to indicate a connection.

Because the headphones support Bluetooth, you should be able to use them with any Bluetooth-enabled device that supports audio. The transmitter, however, is the fastest and easiest way to connect as it doesn't require you to configure anything.

Headphones

The headphones themselves are fairly comfortable, although they did cramp my right ear a bit. Volume controls are included on the right ear and allow you to adjust the volume without reaching for the device itself. Logitech recommends turning the volume up to the halfway mark on the device. This model doesn't allow you to control playback, so you need to use the device itself to skip tracks or pause playback.

The transmitter has a range of about 30 feet. I was able to walk quite a distance from the device without losing any quality. Putting a wall between you and the device does reduce the range a bit. The nice thing about digital audio is that you don't get the white noise when you start getting out of range. Instead, the signal begins to get choppy and parts of the audio stream get dropped. The office's wireless network didn't seem to cause any noticeable interference, and the audio quality was definitely an improvement over my $10 headphones. According to Logitech, battery life should be about eight hours. I found the battery would easily last an entire workday and a little bit into the second day before I needed to recharge it.

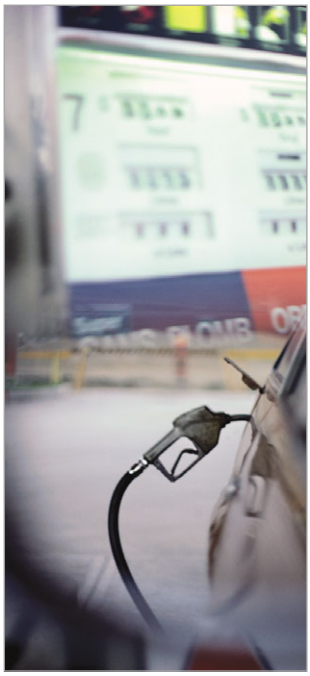
These headphones will set you back $129.99, but if you're tired of being tethered to your audio player, it might be a worthwhile investment.

On The Road Again

Use The Web To Save Money On Fuel

Kylee Dickey

Send your comments to kylee@smartcomputing.com



There have been many increases in gas prices over the past few years, but somehow, most of them seemed to be more of an inconvenience than a major hardship. The latest round of fuel-price increases, though, has really cut into my wallet. I suspect it's cut into yours, as well. I've been especially interested in ways to save money on gas because this summer I'm driving halfway across the country for my friend Tara's wedding. As I often do when I need answers to a problem, I turned to the Internet for help.

Money-Saving Resources

There are several resources online for finding the lowest gas prices in your area. These sites have been generating more hits in recent weeks and months. After Hurricane Katrina, when I needed to fill up my car's tank, I used some online resources to look for the best deals. However, gas prices didn't remain elevated for long after Katrina, and I soon neglected to look for prices online.

Times have changed, though. With gas prices well above $3 per gallon in several states, it's no longer just a luxury to find the cheapest gas in town. One of the most popular places to search for deals is AAA's Fuel Price Finder. Go to the AAA Web site (www.aaa.com). If you've visited the site in the past, it will redirect you to your state's AAA page. If you haven't visited the site before, enter your ZIP code in the designated field and press ENTER. Once your state's AAA page loads, click the Fuel Price Finder link.

AAA's price information is based off of credit card transactions from gas stations. There are other sites that provide tools for comparing gas prices in your area, including GasPriceWatch.com (www.gaspricewatch.com) or GasBuddy.com (www.gasbuddy.com). These rely on customer reports rather than credit card receipts: Not only can you check gas prices, but you can also report prices and help others in your area.

Finally, if you need to budget for an upcoming trip, you can use the AAA Fuel Cost Calculator (www.fuelcostcalculator.com). This tool lets you select a starting point; an ending point; and the year, make, and model of your car. The Fuel Cost Calculator then estimates what gas mileage you'll get and the total cost of your trip. The only drawback is that you can select only major cities for your starting and ending points.

Get Better Gas Mileage

You can also find many resources online to help you make each gallon of fuel go further. For instance, the U.S. government has a site at www.fueleconomy.gov that is full of tips for getting the best mileage possible. Of course, the site provides information about alternative-fuel vehicles, but it also has information for those of us who can't afford to buy a new hybrid or alternative-fuel car right now. The Your MPG section of the site lets you calculate your gas mileage, compare your fuel efficiency with others' and with EPA (Environmental Protection Agency) standards, and print a form for recording fuel purchases. It's useful to compare your gas mileage with those of others who drive the same vehicle, because in real-world driving conditions, cars rarely achieve the EPA estimate listed on the sticker.

The site also includes driving guidelines that will help you get more miles per gallon and a summary of the most important routine maintenance that will help your car run efficiently. The Gasoline Prices link has a large map of the United States. Click your state to see links to local sites with current gas price information. The Find And Compare Cars tool even lets you compare expected gas mileage and average annual fuel cost for various years, makes, and models of vehicles. For example, I learned that I can expect to spend $300 less in gas per year with the vehicle I have now vs. the one I drove two years ago.

I'd like to think that by the time you read this, gas prices will be lower again, but I know that's an unlikely scenario. These Web sites probably won't entirely remove the pain of buying fuel, but they might help you save a few dollars every time you fill up your tank.

Optical Zoom Zen

Find Peace With The Right Long-Range Lens

Nathan Chandler

Send insights and insults to Nathan at nathan@smartcomputing.com

Point-and-shoot cameras have come a long way in terms of quality, but you might be fed up with the limited magnification of a 3X or 4X optical zoom. For sports and wildlife shots, you really need more zoom, preferably in the range of 10X.

I took a look at two point-and-shoot models with extra optical zoom that cost well under $1,000 to see how they compared. You'll soon see that more zoom doesn't necessarily have to zap your checking account.

EasyShare Z650
$349.95
Kodak
(800) 235-6325
www.kodak.com

DMC-FZ30
$649.95
Panasonic
(800) 405-0652
www.panasonic.com

Easy Distance

Kodak's EasyShare Z650 is so compact that many people would never guess it's packing a 10X zoom lens. This camera measures 3.8 inches wide and only 2.9 inches deep. It also weighs less than 11 ounces, meaning you can tote it with you just about everywhere without feeling overloaded. In fact, this camera is so small that people with large hands and clumsy fingers might not feel comfortable changing settings.

This Kodak has a 6-megapixel sensor and a 2-inch color monitor. As it's part of the EasyShare lineup, it comes with a lot of user-friendly extras, such as on-screen prompts that explain each mode and a Share button that makes it easier for you to immediately transfer your photos to a computer.

Although the Z650 offers excellent flexibility, working with AA or CRV3 batteries, it lacks an optical viewfinder. That means you're stuck using the power-hungry color monitor or electronic viewfinder to line up all of your shots.

Performance-wise, this is a solid camera. It's ready to shoot in less than three seconds and records images quickly enough to let you shoot over and over again without major delays. Unlike many other affordable long-zoom cameras, this lens' mechanics are fast enough to alternate between wide and telephoto ranges without frustration. Picture quality varied from average to very good, with clear details and good coloring.

Sonic Boom

For about $200 more than the Kodak, you can opt for Panasonic's Lumix DMC-FZ30, which has an 8-megapixel image sensor and a whopping 12X zoom lens. The FZ30 is relatively large, measuring 5.5 inches wide and 5.4 inches deep. It also weighs in at more than 1.5 pounds. Because the body is small compared to the gigantic lens, some users may not like the front-heavy feeling this camera imparts.

Although the handling is a bit awkward, Panasonic did things right by including a 2-inch color monitor that's hinged, letting you capture pictures at angles where the viewfinder would be hard to use. As with the EasyShare, this product uses an electronic viewfinder, so the camera drains power at a significant rate; the company says you should be able to capture about 300 pictures on one charge with the included lithium-ion battery.

The FZ30 starts up almost instantly and will let you immediately capture a shot; there's zero delay. Just as quickly, you'll notice the color monitor, which provides grainy, discolored feedback that compares unfavorably to most current digital cameras. After I turned off the digital zoom, colors and details on the display were much clearer.

This camera's best feature is probably its image stabilization, which kept blurring to a minimum, even when I used maximum telephoto. Even at long distances, details were sharp, making for print-worthy shots. Just as nice, when the automatic functions failed to create accurate exposures, the FZ30 has a full range of manual features to tweak images.

A Bigger View

Although these cameras target different buyers, they do prove a point—you don't need a lot of cash to get a lot of zoom. If you don't want a lot of manual functions but desire a more magnification than most small cameras, the Z650 is a good buy. If you want more control, more resolution, and more zoom than just about any other low-priced fixed-lens camera, you'll enjoy using the very capable FZ30.

Crash Recovery

Utilities That Can Rescue Your System From Disaster

BUYING TIPS

Crash recovery is different from data recovery. Make sure any crash-recovery program you consider is capable of functioning even when the drive isn't.

Let's start with a question: Would you rather get a root canal or have your hard drive crash? Don't feel bad if you hesitate in answering. In a society that relies heavily on digital information, as ours does, the unexpected loss of data can have serious ramifications. Prudent users protect themselves against the worst by investing in backup utilities and undelete software. However, these programs typically have no resources for handling a drive that won't boot. That's where crash-recovery software comes in.

Most of the time, a drive crash occurs when the storage hardware begins to malfunction or key OS (operating system) components become corrupted. In either situation, the user loses access to the data. But—and this is the important part—the data itself almost always remains in good condition on the drive (as long as it isn't overwritten by other data). Crash-recovery software allows users to rescue this data and move it to a safe location. For best results, users should run crash-recovery software as soon as possible after a crash occurs.

RecoverSoft Data Rescue PC 1.6

RecoverSoft Data Rescue PC makes it easy to recover data files after a crash. When a drive unexpectedly fails and attempted reboots are met with Drive Not Found errors, the user simply inserts the program's bootable CD into the disc drive, restarts the computer, and runs the program directly from the disc.

The program's intuitive RescueWizard interface guides users through the recovery process, providing clear explanations every step of the way. On our test system, RecoverSoft scanned the entire drive in a relatively quick 25 minutes. Once scanned, the drive's contents are presented for review. Each file is rated according to the chances of recovery: Excellent, Good, Possible, or Poor. Users then can select the files they want to restore, and RecoverSoft will transfer the files to any FAT (file allocation table) partition on an internal hard drive or external USB or FireWire storage drive. Users who need to interrupt the recovery can save it to a floppy diskette and complete it later. Help is readily available by pressing F1 at any time, and users who need additional assistance can get it by phone or email.

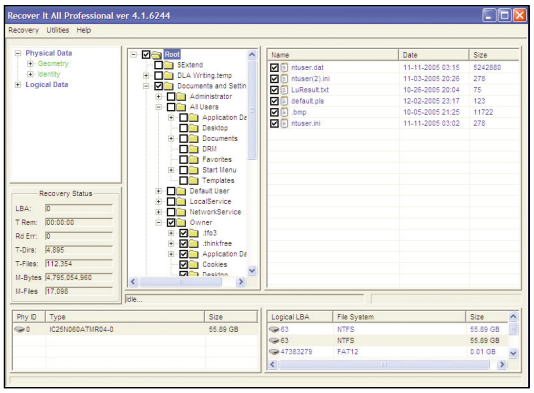
Of course, RecoverSoft has its shortcomings, most notably a media limitation that prevents users from restoring data to an NTFS (NT file system) drive. Moreover, its price tag seems quite high and its value quite low when compared to a title such as Norton Save & Restore ($69.99; www.symantec.com) that comes loaded with a variety of other backup and recovery features. In the end, RecoverSoft functions as a reliable—but pricey—insurance policy that users can fall back on when disaster strikes.

(*NOTE: Prosoft Engineering recently announced the release of RecoverSoft Data Rescue PC 2.0, which will be available to consumers by the time you read this. However, it was not available for review when this article was written.*)

Ontrack EasyRecovery Lite 6.1

When drives fail, users panic. When crash-recovery software fails, users get mad. We know, because it happened to us when we tested EasyRecovery Lite 6.1. One of our test systems locked up repeatedly when we tried booting it with the included bootable floppy diskette. Another test system, a newer PC without a built-in diskette drive, was unable to accommodate the bootable floppy altogether. EasyRecovery gave us the option of burning a bootable CD-ROM, but we couldn't take advantage of it because the computer in question was not equipped with a third-party disc-writing utility that supports the creation of bootable discs from ISO9660 image files.

In its defense, EasyRecovery performed admirably on our third test system. It correctly identified the PC's drives, slowly scanned the drives for content, and provided a simple step-by-step wizard that guided us through the process of recovering data. Like RecoverSoft, EasyRecovery lists details about each of the identified files. A



G rating meant the file was in good shape, for instance, while a D rating meant the file appeared to be deleted. EasyRecovery could restore files to virtually any accessible media format, including floppy diskettes. Unfortunately, it allows users to recover a maximum of 25 files per recovery session. We cannot overstate our disappointment in this regard. Users who want to recover an unlimited number of files either have to launch one recovery session after another—an extraordinarily tedious option—or pay $199 for EasyRecovery DataRecovery.

Aside from its crash-recovery functionality, EasyRecovery Lite boasts several other data recovery features. It has a built-in file recovery component for restoring accidentally deleted files from a properly functioning hard drive, for instance, and a format recovery component for restoring data from a drive that was formatted accidentally. We appreciated these extras, but they could not make up for the utility's various shortcomings.

Recover It All

Crash recovery is a computing activity typically undertaken by experienced computer users. All of the programs featured in this roundup assume a certain level of technical expertise. Recover It All is certainly no exception.

This is a program aimed at serious computer users. The sleek program interface lacks the big user-friendly icons associated with consumer-oriented products and instead contains references to LBA (logical block addressing), root drives, drive geometry, physical ID, and the like. Users looking for guidance will find help files littered with inside jokes that make sense to no one but computer nerds. The utility's extended features include options for repairing corrupt partition tables and boot sectors, a cloning feature that allows users to copy the contents of a failing drive to a secondary device, and support for RAID (redundant array of independent disks) configurations.

However, many experienced users will not be able to use the program for crash recovery. The software is designed to be run directly from a floppy diskette or other safe media, which makes sense given that software should not be installed on a damaged drive under such conditions. What doesn't make sense is the fact that Recover It All does not support DOS. Users must run the program from within Windows, something that may be impossible to do following a drive crash. Program developers promise that future versions of the program will run in DOS. Until then, however, the only people who should consider the program

Buying Tips

If you think crash-recovery software is expensive, you might want to check out the price of hiring a crash-recovery service. Users who hire a data-recovery service to extract data from a fallen storage drive can expect to spend $1,000 or more, says Jeff Faust, spokesperson for Kroll Ontrack.

Software Information

	Price	Company	Contact Information	URL
RecoverSoft Data Rescue PC 1.6	$129	Prosoft Engineering	(877) 477-6763 (925) 426-6100	www.prosofteng.com
EasyRecovery Lite 6.1	$89	Ontrack Data Recovery	(800) 645-3649 (952) 937-5161	www.ontrack.com
Recover It All	$99	DTI Data	(866) 438-6932 (727) 345-9665	www.dtidata.com
Norton Save & Restore 11	$69.99	Symantec	(408) 517-8000	www.symantec.com

Scorecard

	Features	Ease Of Use	Installation	Support/Documents	Price	Overall Score
RecoverSoft Data Rescue PC 1.6	3	5	5	5	2	4/5
EasyRecovery Lite 6.1	3	4	5	4	3	3.8/5
Recover It All	3	4	5	4	3	3.8/5
Norton Save & Restore 11	4	5	5	3	5	**4.4/5**

Buying Tips

Do not use crash-recovery software if you hear scratching, clicking, or grinding noises coming from a drive. These noises suggest a mechanical failure. In such a situation, you should turn off your PC and contact any company listed in this article for assistance.

for crash-recovery purposes are those with dual-boot systems.

One nice extra worth mentioning: Recover It All users can apply the utility's price toward the purchase of data-recovery services provided by Dtidata.com if such services are needed.

Norton Save & Restore

When PC users have a problem, they often look to Symantec to solve it. The company actually produces several products that aid in data recovery, but the one that proves most valuable in total system failure is Norton Save & Restore. Although the utility is not a crash-recovery utility per se, we liked it because it did almost everything a crash-recovery utility should do.

As is the case with RecoverSoft, the Save & Restore installation disc doubles as a boot disc. When the drive crashes, the user simply pops the disc in the drive to launch the recovery environment and the intuitive Recover My Computer Wizard. The wizard walks users step-by-step through the process of moving data from a crashed drive to a backup drive. We liked that the recovery environment provided options for replacing a corrupted master boot record, configuring the backup drive as the boot drive, and—an especially nice touch—scanning the drive for viruses.

Beyond its crash-recovery capabilities, Save & Restore also doubles as a robust backup utility that accommodates multiple backup routines, supports scheduled backups, and offers file-recovery functionality. The utility also boasts a cloning option for copying the contents of one drive to another, which makes it quick and convenient to get a replacement drive up and running.

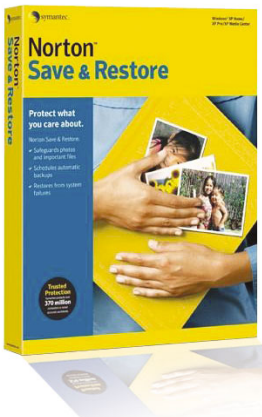
We have only a few complaints to make about Save & Restore. The first and most significant is that the utility's crash-recovery components only work if the utility is up and running on the system prior to a crash. Why? Because Save & Restore recovers data by referring to recovery points and can recover only those data files that are part of an existing recovery point. The utility is of no help whatsoever when brought in after the fact. Another complaint stems from the fact that a system must be equipped with at least 256MB of dedicated RAM in order to run the recovery environment. (In contrast, EasyRecovery and RecoverSoft require a scant 64MB of RAM.) Users of older PCs will have to upgrade their memory modules or look elsewhere for assistance. Finally, there's the issue of tech support. Symantec bundles a comprehensive users manual with the program and provides various online support options, but phone-based tech support is available only at a cost of $29.95 per incident.

Be Prepared

Drive crashes, by their very definition, are something that strike unexpectedly. That doesn't mean users must face them unprepared. By preparing for crashes while their systems are running well, users can protect themselves against the worst consequences of drive failure.

One of the best things a user can do to prepare for a drive crash is invest in a crash-recovery program in advance. We recommend Norton Save & Restore, this month's Smart Choice designee. The utility offers robust backup utilities for when times are good and sufficient recovery capabilities for when times are bad. Users who do not make advance preparations and find themselves facing a crash before they're ready should consider RecoverSoft Data Rescue PC, which can rescue most files even after a crash has hit. ■

BY JEFF DODD

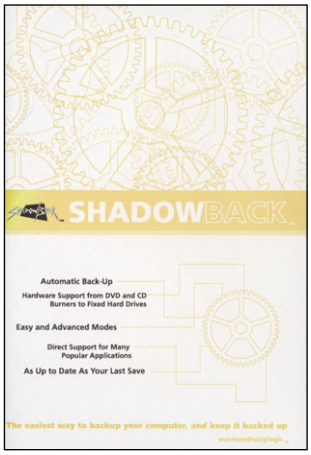


July 2006
Smart Choice
Norton Save & Restore 11

Backups The Easy Way

ShadowBack

$59.95 ($29.95 for one year only)
Warm And Fuzzy Logic
(800) 685-8110
support@warmand
fuzzylogic.com
www.warmand
fuzzylogic.com



Studies show that many users don't perform routine backups because they are such hassles. If you fall into that category, or if you have ever been caught unprepared for a crash because your backup was outdated, then listen up. An innovative program, ShadowBack, can back up your files automatically every time they change. Not only will you have an easier time managing the backup process, but also you'll greatly increase your odds of having up-to-date backups should problems arise.

ShadowBack has a well-organized, user-friendly layout, with big, easy-to-read buttons for such options as Simple Backup, Advanced Backup, Simple Restore, and Advanced Restore. Novice users will appreciate the Simple Backup and Simple Restore options, which largely automate the backup and restore process.

With Simple Backup, ShadowBack asks you to select either Backup My Computer or Backup My Work. Choose Backup My Computer, and ShadowBack will create a full system and data backup. Select Backup My Work, and ShadowBack will sail through your drives, locating all user-created files, including documents, emails, and Internet bookmarks. If you need to restore your backup set, use the Simple Restore option and ShadowBack will return the entire backup to its original location or the destination of your choice.

Despite the helpful nature of the simple backup and restore options, we really like the Advanced Backup and Advanced Restore features. Here, you use a Windows Explorer-style interface to select files and folders for one or more custom-made backup sets. At any time, you can reload those backup sets for editing (to add more folders, for example). When you restore, the Advanced Restore feature lets you select exactly which files to restore and then places them in the location of your choice.

A Helping Hand

No matter what backup method you choose, you can have ShadowBack automatically monitor your files for changes. It can then back up changed files continually, during idle time, or only when the user presses the Backup Changed Files Now button. You can decide how often after file changes ShadowBack should update the backup.

During installation, ShadowBack can perform an initial backup (you can do this later, so skip the offer unless you have plenty of time). It then lets you establish a number of preferences. Options include the ability to choose which drives to monitor, compress or encrypt backups, decide whether or not to overwrite changed files, instruct the program where to store your backups, select optical disc (CD or DVD) sizes and recording speeds, and more. You can access those same options any time during regular operation using the Options button on the main interface.

A Winner

ShadowBack's button-driven approach may seem too simplistic for users of more sophisticated tools. Nevertheless, we really liked it. The program is fast and efficient, and it works with a variety of media, including tape drives, network drives, and optical discs (CDs or DVDs). Furthermore, during setup, ShadowBack does a good job of locating commonly used programs, discerning where they store their data, and giving you the option to back it up. ShadowBack is also capable of backing up programs and email or contact data (Outlook; Outlook Express) on the fly while you work.

ShadowBack does use a proprietary file format, which means you'll need the program to perform a restore. This is a common approach for programs in this category, so we don't consider it a drawback.

ShadowBack's ability to monitor for changes in real time is what really sets it apart. With multiple backup sets for various file types based on frequency of change and importance, you can ensure the level of protection (and consequently, the amount of time and space allotted to the backup process) is appropriate for every file on your system. ❚❚

BY JENNIFER FARWELL

Scorecard

Performance 5
Ease Of Use 5
Installation 5
Documentation 5
Price 3
Overall Score 4.6/5

Multimedia

Burn It Up!

Fireman CD/DVD Burner 2.0

$39.99
Honest Technology
support@honestech.com
www.honestech.com

Fireman 2.0 CD/DVD Burner

Scorecard
Performance 5
Ease Of Use 3
Installation 5
Documentation 2
Price 3
Overall Score 3.6/5

Fireman 2.0 is a CD/DVD data-, audio-, and video-burning utility with one of the most colorful, uncomplicated main interfaces we have ever seen. It's also speedy and flexible. It can create everything from CDs to mini-DVDs and Super Video CDs, supports dual-layer, multisession burning, and DVD folder burning. It also offers on-the-fly, drag-and-drop burning so you won't need extra hard drive space to create a mirror (replica) of a file set before you burn it.

However, Fireman is lacking in some areas, preventing us from being unreservedly enthusiastic. Users access all Fireman operations using one of four button bars, which also appear as cheery, cartoon-style icons. They then drill down through additional interfaces to select a subcategory and choose the individual files.

The final selection window closely resembles Windows Explorer, which will be a comfort to some users. Nevertheless, we felt a program that targets novices should be more user-friendly. For example, the program uses but fails to explain terms, such as root and ISO, that novices may not recognize. Additionally, even after the user selects a file category to burn, the software offers no assistance identifying appropriate files. It would have been nice if the program could search for—or at least limit display to—appropriate files types.

Instead, Fireman lists every file and folder in the selection window but will only let users add to the file list those that match the desired criteria. Fireman doesn't explain why the user can't add other files; it just ignores the request altogether.

This gets the job done, but it could result in long selection sessions as novice users choose files. Those familiar with filename extensions won't have a problem, but people at that skill level will likely be turned off by Fireman's Disney-esque visuals. Given everything it is trying to accomplish, Fireman is fairly agile, but we wouldn't call it elegant. A free trial will let you find out if it's right for you. ❚❚

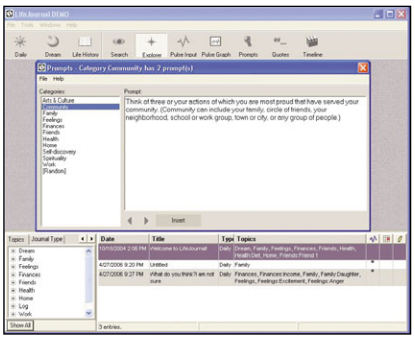
BY JENNIFER FARWELL

Writing

Your Life's Story

LifeJournal

$39.95
Chronicles Software
(877) 456-8762
www.lifejournal.com



Scorecard
Performance 4
Ease Of Use 3
Installation 4
Documentation 2
Price 4
Overall Score 3.4/5

Imagine a word processing program that incorporates a database structure filled with common lifestyle categories and subcategories (such as gratitude or garden). Every time you create a document, you assign it to a category, making it easy for you to track what you have written. You have just imagined the gist of journaling software such as LifeJournal.

You may wonder why someone would pay for a dedicated program that is basically a word processor. We wondered the same thing, until we used the software. In addition to having word processing features such as spell check and the ability to insert files or graphics, LifeJournal abounds with elements designed to enhance your journaling sessions. For example, LifeJournal provides prompts and inspirational quotes to get you going. It also lets you assign a Daily Pulse (your mood, stress and energy levels, health, and six other optional criteria) to your sessions.

You can timestamp your entries and create hyperlinks to other journal entries, thereby weaving a web of your musings. You can also create dialogue by establishing characters.

The use of the category indexing system makes it easy to structure your thoughts, jotting down a few sentences or a page and leaving the journal for another day. When you return, you can search your entries by various criteria, making it easy to pick up where you left off. Those of us in busy households can password-protect our journals so no one else can read them.

We found some of LifeJournal's features, including assigning topics and characters, to be a bit confusing at first. Furthermore, the tutorials are not particularly illuminating. However, after a reasonable amount of time spent learning the ropes, we think the average, expressive person will find LifeJournal quite enjoyable. ❚❚

BY JENNIFER FARWELL

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Staff Picks

Our Experts Pick The Best Hardware

HP iPAQ hx2495

To me, a PDA (personal digital assistant) is much more than just another gadget that I carry around every day; it has become my second brain. Without it, I would be late to appointments, forget to pay the mortgage, or worse yet, forget my mom's birthday. Although I'm really not as scatterbrained as this may make me sound, I really do rely on my PDA to keep me organized and sane.

The HP iPAQ hx2495 ($399.99; www.hp.com) has all of the right specs to fit my needs, including Windows Mobile 5.0, Bluetooth, and Wi-Fi. I also love the fact that it reads both CF (CompactFlash) and SD (Secure Digital) cards. This way, I can use my iPAQ as a portable photo viewer to read the memory cards used in many popular digital cameras. I can also keep a spare card around for music and turn the hx2495 into a portable music player.

With the 3.5-inch color display, an Intel PXA270 processor running at 520MHz , and 192MB of memory (up to 80MB available for persistent storage) rounding out the list of impressive specs, I can accomplish virtually anything I want from the palm of my hand. ❚❚

BY JENNIFER JOHNSON

iPAQ hx2495
$399.99
HP
(800) 752-0900
www.hp.com

COMPUTERS		
Desktops <= $1,500 HP Pavilion Media Center TV m7330n $919.99	Chad HP www.hp.com	*An AMD Athlon 64 XD 4200+ processor is the heart of this system, which includes a single TV tuner and Windows XP Media Center.*
Desktops > $1,500 Dimension B110 $549	Josh Dell tinyurl.com/8ny9x	*Dell offers several B110 configurations, including the $549 rig, which has a 17-inch monitor. Although I haven't seen this PC in action, I'd probably bump the memory to 1GB.*
Notebooks <= $1,500 Satellite A105-S2717 $1,329.99	Jennifer Toshiba www.toshiba.com	*This laptop has Centrino technology, 1GB of RAM, a TruBrite display, and a DVD burner.*
Notebooks > $1,500 Portégé M405-S8003 $1,999	Andrew Toshiba tinyurl.com/nju7d	*I've long been a fan of Toshiba's Thin & Light Portégé notebooks, and this tablet-style version has plenty of road-warrior features in an easy-to-haul package.*
HANDHELDS		
Handhelds & PDAs iPAQ hx2495 $399.99	Jennifer HP www.hp.com	*This PDA has all of the right specs for my needs: Windows Mobile 5.0, Bluetooth, Wi-Fi, and integrated CF (Compact Flash) and SD (SecureDigital) card readers—all for about $400.*
INPUT DEVICES		
Keyboards G15 $79.99	Josh Logitech tinyurl.com/obdrf	*I've heard great things about Saitek's Eclipse, but I know from experience that the Logitech G15 is one of the best gaming keyboards around, thanks in no small part to its programmable G keys.*
Mice/Trackballs/Trackpads V400 Laser Cordless Mouse For Notebooks $49.99	Kylee Logitech www.logitech.com	*Finally, a notebook mouse that will work on almost any surface. Compared to an optical mouse, this laser mouse can track movement accurately on a wider range of surfaces.*
MONITORS/DISPLAYS		
CRTs E90f $239	Josh ViewSonic tinyurl.com/9kbuw	*These days, there's no excuse not to have a large, easy-to-read monitor. Although I haven't see it in person, the E90f's 19-inch flat screen and 1,792 x 1,344 maximum resolution looks almost as good as its price tag.*
LCDs <= 19 inches UltraSharp 1907FP $339	Josh Dell tinyurl.com/g9syu	*Nineteen inches, a 1,280 x 1,024 resolution, an 8ms response time, and a three-year warranty. 'Nuff said.*
LCDs > 19 inches UltraSharp 3007WFP $2,199	Vince Dell tinyurl.com/ct9rm	*This 30-inch widescreen giant is among the biggest monitors you can buy. So big, in fact, you need a dual-link graphics card that supports 2,560 x 1,600 resolution to support it.*

PC Power & Cooling's Turbo-Cool 1KW PSU

PSUs (power supply units) don't get a lot of ink, but they're nearly as important as any component in your computer. Recently, I built a new home system based on the very slick 500W Ultra X-Connect PSU ($150). But for all the flash it provides via built-in blue LEDs and windowed panels, I'd stick the Turbo-Cool 1KW (kilowatt) in the rig today. The Turbo-Cool kicks out an amazing one-kilowatt of power, is factory-tested to meet 22 metrics, and has connectors for any component you throw at it. At nearly $500, it isn't anywhere near being cheap, but what do you expect for 1KW of PC power from a trusted PSU maker?

BY BLAINE FLAMIG

Turbo-Cool 1KW PSU
$489
PC Power & Cooling
(800) 722-6555
www.pcpowerandcooling.com

PRINTERS

Inkjet <= $150 PIXMA iP6220D $149.99	Nathan Canon www.usa.canon.com	*Integrated flash card slots and monitor, plus six inks rated for 100 years when stored properly.*
Inkjet > $150 Stylus Photo R1800 $549	Nathan Epson www.epson.com	*Super colorful 13 x 19 photos that resist fading for about 200 years.*
Laser <= $200 LaserJet 1018 $129.99	Sam HP www.hp.com	*The print speed isn't blazing, but this is a low-maintenance printer at a great price point.*
Laser > $200 to $500 CLP 600N $499.99	Sam Samsung www.samsung.com	*With the ability to turn out as many as 20 pages of color per minute the CLP 600N looks like a nice buy.*
Laser > $500 LaserJet 3800n $899.99	Sam HP www.hp.com	*The 65,000-page duty cycle isn't as much as the Dell 5100cn, but the 533MHz processor makes this LaserJet worth looking at.*
MFDs MFC 3420CN $799.99	Sam Brother www.brother.com	*This multifunction device includes a color laser printer that can dole out up to 31 monochrome or eight color pages per minute. It also features a 48-bit scanner and 33.6K fax modem.*

STORAGE

Flash Memory & Portable 1GB Cruzer Profile $99.99	Vince SanDisk www.sandisk.com	*Because it uses biometrics, I don't have a password to forget anymore. Plus, it has 1GB of storage for less than $100.*
CD & DVD Drives PX-755SA $129	Marty Plexor www.plexor.com	*Fastest DL (double-layer) burning speed, SATA (Serial Advanced Technology Attachment), and an unusually low price (for Plexor).*
Hard Drives Raptor WD1500ADFD 150GB $299.99	Marty Western Digital www.westerndigital.com	*Updated for outrageous speed and a more respectable capacity.*

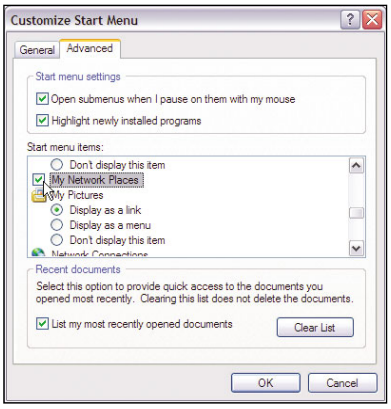
VIDEO/PHOTO

Digital Camcorders < $500 PV-GS180 $599	Andrew Panasonic tinyurl.com/nnep5	*This camcorder offers superior picture quality afforded by a 3CCD image sensor, and it's one of the cheapest you'll find. The MSRP is above $500, but we found it online at various retailers for less than $500.*
Digital Camcorders > $500 HDR-FX1 HDV Handycam Camcorder $3,700	Andrew Sony tinyurl.com/6dgeq	*If you want to go all out on a camcorder, then you gotta go HD. From what we've heard, this is one of the best.*
Digital Still Cameras - Point & Shoot PowerShot S80 $549	Kylee Canon www.powershot.com	*This compact 8-megapixel camera has a wide-angle lens (equivalent to 28mm to 100mm on a film camera) and many of the advanced settings typical of higher-end cameras.*
Digital Still Cameras - Adv./Prosumer E-330 $999.95	Nathan Olympus www.olympususa.com	*The only SLR (single-lens reflex) camera—and a budget-priced one, at that—with a live view on its 2.5-inch color monitor.*
Graphics Cards <= $150 e-GeForce 7300 GS $139.99	Vince EVGA www.evga.com	*Upgrading to Windows Vista will probably mean upgrading your graphics card. This is an inexpensive way to do it.*
Graphics Cards > $150 Gigabyte GV-NX79X512DB-RH about $499	Vince Gigabyte tinyurl.com/ratz6	*This is a graphics card that uses NVIDIA's top-of-the-line GeForce 7900GTX chipset. With 512MB onboard memory, it's perfect for running Dell's UltraSharp 3007 WFP.*

Sharing WinXP Folders Over A Home Or Home-Office Network

What's the biggest benefit you get from having a home or home-office network? If you're like most users today, it's probably the ability to share a single Internet connection among all the computers on the network. In fact, sharing an Internet connection is likely the only reason you have a network at all—you probably bought a router to share your connection and got the network as a bonus when you installed the router.

However you came to have a network, if you're using it for nothing other than sharing an Internet connection, you're missing out on another major convenience: the ability to share folders among the computers on the network. When you share a folder on one of your computers, the contents of that folder are available to any other computer on the network. That is, from any other computer on the network, you can open the shared folder, open any of the files within the shared folder, copy any of the files to your computer, or even edit a file as if it were on your computer. If you or the other users on your home or home-office network spend a lot of time emailing files to other computers or copying files to CDs or memory sticks so you can transfer them between computers, sharing is something that can save you time and something you ought to explore.



If you're going to be sharing folders over your network, you'll want My Network Places on your Start menu.

If it's not clear, the instructions that follow assume you have already set up a network in your home or home office.

Use The Shared Documents Folder

Actually, whether you know it or not, you're already sharing a folder with everyone else on your network: the Shared Documents folder, which, by default, Windows XP installs and configures to be shared. To see your Shared Documents folder, click Start and choose My Documents; in the left pane of the My Documents window, under Other Places, click Shared Documents. In the folder, you'll find subfolders for Shared Music, Shared Pictures, and Shared Video, as well as any documents or folders you may have moved or copied there yourself.

To see the Shared Documents folders on other users' computers, click Start and choose My Network Places. (If My Network Places doesn't appear on your Start menu, right-click the Start button, choose Properties, click the Start Menu tab, click Customize [next to the Start Menu radio button], and click the Advanced tab. Under Start Menu Items, check My Network Places and click OK twice.) In the My Network Places window, you'll see the Shared Documents folders, called Documents on [ComputerName] or SharedDocs on [ComputerName] for each computer currently turned on and connected to your network.

If you want to share a file with the other users in your network, just copy or move the file to your Shared Documents folder. First, locate the file you want to share. Right-click the file and choose Copy or Cut. Under Other Places, right-click Shared Documents and choose Paste. Your file is in the folder and ready to share.

Exercise Some Control

By default, the Shared Documents folder gives others on the network unlimited access to the folder, and to the files within—that is, they can open any file in the folder, but they can also add files to the folder, remove files from the folder, and make changes directly to files in the folder. It's not unthinkable that you'd offer this level of access on a home or home-office network.

But if you'd rather offer read-only access, under Other Places, right-click Shared Documents and choose Sharing And Security. Under Network Sharing And Security, deselect Allow Network Users To Change My Files and click OK. Now other users on the network can open the Shared Documents folder and open any of the

files within, but they can't change the file once they open it, and they can't add files to or remove files from the folder. (A user is still free to copy a file from the Shared Documents folder to a folder on his own computer, where he can then edit the file.)

Share Other Folders

The Shared Documents folder is convenient because it keeps things simple, giving everyone on your network a place to share and access shared files. But you can share virtually any other folder on your computer. Right-click the folder you want to share and choose Sharing And Security. Under Network Sharing And Security, select Share This Folder On the Network. The folder's name should appear in the Share Name field; change it if you'd like it to have another share name. Finally, if you'd like other users to be able to change the folder, or any of the files therein, select Allow Network Users To Change My Files; otherwise, leave that checkbox blank. Click OK.

There are a few folders WinXP won't let you share, including the Windows folder, the Program Files folder, and the Systems folder. When you open the Settings And Security dialog box for these folders, the options are grayed out.

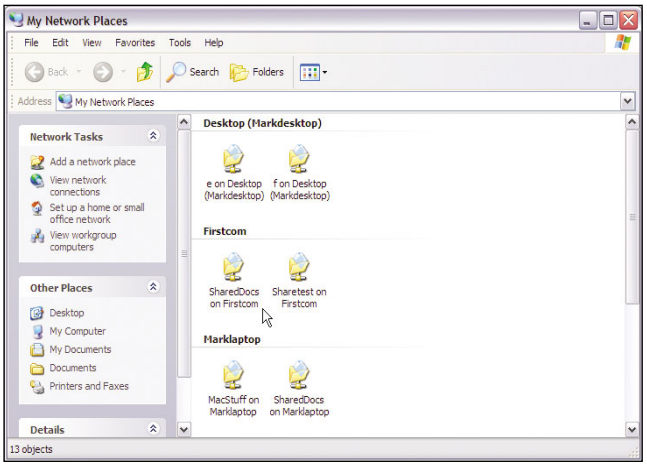
Any folder within a folder you've shared is also shared and accessible to others on the network. This is in spite of the fact that when you open the Sharing And Security dialog box for the folder in question, Share This Folder On The Network is NOT selected by default. If you don't want to share a folder within a shared folder, right-click the folder, choose Sharing And Security, select Make This Folder Private, and click OK.

You Can Share Drives, Too

You can share an entire hard drive (or partition) in the same way you share folders. In most cases, you won't want to share your root drive, the drive on which Windows is installed. But there are instances in which sharing an external drive, or another drive partition, can be practical and even prudent.

Suppose you've invested in an external USB hard drive for backing up important files. The drive has plenty of capacity, and you'd like to use it to back up the important files on *all* the computers on your network. However, it's a pain to install the drive on each machine and to move it from computer to computer. Plus, if you formatted the external drive to use the Windows NTFS format, you may not be able to use it with an older Windows 9x/Me system, which uses an incompatible format. No problem: If you connect the external drive to one Windows XP computer and share it, and allow changes on it, then ANY computer on the network can copy files to the drive. To the same end, you could share a nonroot partition on one of your computers' larger internal drives, so that older computers with smaller hard drives can back up files to that partition.

To share a drive, click Start and choose My Computer. Right-click the drive you want to share and choose Sharing And Security. In the dialog box that appears, click If You Understand The Risk. Select Share This Folder On The Network; if you want to be able to write to the drive, as in the aforementioned examples, also select Allow Network Users To Change My Files. Click OK. The drive will now appear among the icons in other PCs' My Network Places, where users can open and copy files to it, as with any other folder or drive.



The My Network Places folder gives you a complete picture of all the shared folders on your network. The folders named SharedDocs On are each computer's original Shared Documents folders.

Is All This Sharing Safe?

If you have a wired network, as long as you trust everyone on the network, and as long as your router comes equipped, as most do, with a solid built-in firewall, you have little to fear. If you're concerned that one or the other is not the case, address the problem before you start sharing and share only when the convenience significantly outweighs any risk.

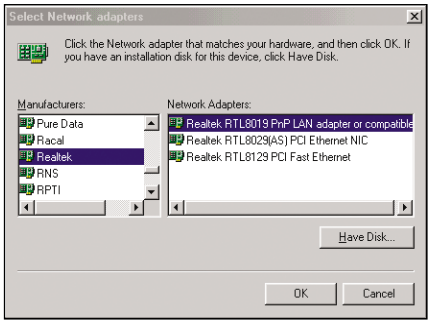
If you have a wireless network, you must take the extra step of securing it using WPA (Wi-Fi Protected Access) or WEP (Wired Equivalent Privacy; preferably 128-bit) encryption. Otherwise, your shared folders and drives will be open to anyone within range of the network. ❚❚

BY MARK SCAPICCHIO

Add A Network Component In Windows 98

Networking a Windows 98 system isn't as simple as just installing hardware and loading drivers. You often need to load additional components to make sure the PC will be able to communicate with other systems.

There are four basic types of network components available in Win98: adapters, protocols, clients, and services. Adapters are the drivers that allow a piece of network hardware (such as a network card or external adapter) to work with a computer, while the protocol gives your PC the ability to communicate with others systems on the network (or on other networks, such as the Internet).



Windows 98 includes lots of built-in network drivers, but unless your network card is as old as the operating system, you'll probably need the disk that came with your hardware.

A Win98 system must have an adapter and protocol installed in order to be networked. But two other component types—clients and services—enable a system to access certain types of networks or specific services on those networks. For example, the Client For Microsoft Networks can be used to make system part of a Windows server-based network or to join it to a peer-to-peer network of other Windows systems. The job of a network service such as File And Printer Sharing For Microsoft Networks, on the other hand, is to make a system's data and printers available to other systems on the network.

In Win98 you can add, modify, and remove network components by using the Control Panel's Network icon. To access it, click Start, Settings, and Control Panel and then double-click the Network icon. Note that most network configuration changes in Win98 require the OS to load files from the original CD, so be sure to have it handy. You'll also have to reboot the system before the new settings will take effect.

Network Adapters & Protocols

When you double-click the Win98 Network icon, it opens to a Configuration tab that displays a list of installed network components. To add a network adapter, click the Add button, choose Adapter, and click Add. Win98 already includes built-in drivers for hundreds of network cards from dozens of vendors, so you'll be presented with a fairly long list of adapters to choose from. Then again, unless your network card was around back when Win98 came out, you won't find it on the list. In this case, you'll have to click the Have Disk button and then insert the CD or floppy diskette that contains your network adapter's drivers. (Depending on the age and configuration of your system, Win98 may detect the presence of any new network hardware and prompt you to provide the drivers.)

The next step after adding the network adapter is to load and configure a network protocol. Win98 includes a bunch of those, as well, and most of them are relics of once popular, but proprietary, networks. The only protocol that really matters these days is TCP/IP (Transmission Control Protocol/Internet Protocol; the one that gets you onto the Internet), and in most cases, there is no need to set it up manually, as Win98 automatically does it for you. If this isn't the case, click Add, select Protocols, and select Microsoft as the manufacturer.

When TCP/IP is installed, you'll see an entry for it that references your network card in the component list, and by default, TCP/IP is configured to get an IP (Internet Protocol) address from a DHCP (Dynamic Host Configuration Protocol) server (for example, your cable modem, DSL [Digital Subscriber Line] device, or router) that is appropriate for most home network situations. If all you need to do is get a system on the Internet, once you've got the adapter and protocol set up, click OK to be prompted for the system files and to reboot the system.

Network Clients & Services

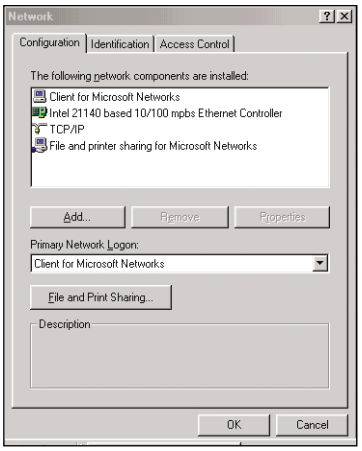
Like the majority of network adapter drivers and protocols that come with Win98, most of the OS' network Client and Service options are vestigial and thus not of any interest to the average user. Two notable exceptions

are those mentioned earlier, the Client For Microsoft Networks and File And Printer Sharing For Microsoft Networks. The former is typically used by businesses that want to allow Win98 computers to log in to a Windows server, but it's also necessary if you want to network several Windows systems together without a server, which is a common home networking scenario.

If the Client For Microsoft Networks isn't already installed on your system (it's often installed by default when you add a network adapter), you can do so manually by clicking Add and Client and selecting Microsoft as the manufacturer. Although you don't need to configure this client any further for networks that don't use a server, you do need to click the Identification tab and make sure the Workgroup field matches on all the systems that are to be part of the network.

When you install the Client For Microsoft Networks on a system and make it part of a Workgroup, that computer can then access resources from other systems via the network, but not vice versa. If you want to share the resources of a given system with other networked computers, you also need to install the File And Printer Sharing For Microsoft Networks.

The easiest way to do this is to click the File And Print Sharing button on the Configuration tab. After you click this, place a check mark next to one or both options: I Want To Be Able To Give Others Access To My Files and I Want To Be Able To Give Others Access To My Printer(s). Click OK twice.



The Windows 98 Network Component list should contain entries for an adapter and protocol and sometimes a network client and service, as well.

Because Win98 File And Print Sharing can make your PC's data accessible over the Internet, it's best to enable it only when your system does not contain any personal or confidential information. Win98 has limited security features, and as an older OS, it doesn't always get security upgrade patches when new vulnerabilities are discovered. Furthermore, Microsoft has plans to cease official support for Win98 (as well as Win98SE and Windows Me), including security patches and updates, as of July 2006. ❚❚

BY JOSEPH MORAN

Remove A Windows 98 Network Component

Depending on how your system was configured and used in the past, you may have a number of network components installed that aren't in use.

Getting rid of any unnecessary components benefits you in two ways. It simplifies the troubleshooting process in the event of any network problems, and it may also improve the performance and stability of your system as well. Here, we'll highlight a few Windows 98 network components you may be able to do without.

Removing a Win98 network component is easy—just highlight an item in the list and then click Remove. (Have your Win98 CD or a folder with the system files handy.) It's important to look before you click, and if you're not absolutely sure that you can do without a particular component, leave it alone—or at the very least, jot down its name, so you can restore it in case of a problem. It's also a good idea to click the Properties button for the item and record its configuration settings, as well.

A component that's often a good candidate for removal is the Dial-Up Adapter. The Dial-Up Adapter—which can be found on most Win98 systems because it's usually installed by default—lets you access the Internet using a modem. If you don't use dial-up Internet access and instead have a broadband connection, you can safely send the Dial-Up Adapter packing. A fringe benefit of removing the Dial-Up Adapter is that doing so protects against dialer malware that calls long distance numbers behind your back and racks up your phone bill. (You can also prevent this by simply unplugging your unused modem from the phone line.)

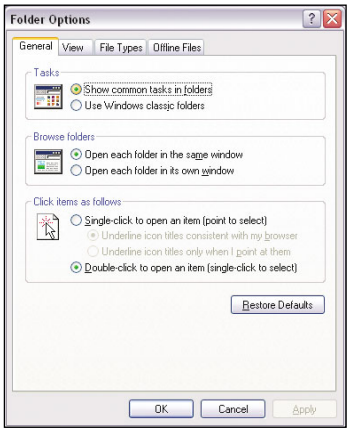
In order to connect a Win98 system to the Internet, you only need two components—the adapter and the TCP/IP (Transmission Control Protocol/Internet Protocol). If you want to share your system's data and peripherals on a network, File And Printer Sharing For Microsoft Networks can often loaded be on standalone computers or those that just connect to the Internet.

If you don't absolutely need it, removing File And Printer Sharing is actually preferable, as it can compromise system security. Similarly, if your system isn't accessing data from other networked PCs, you can discard the Client For Microsoft Networks, because its main purpose is to provide that access to resources on other systems. ❚

Remove WinXP's Common Tasks Bar

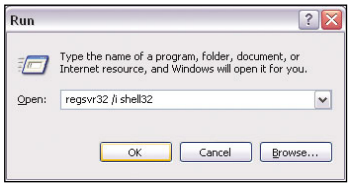
The Common Tasks Bar in Windows XP can be very useful. Similar to an Explorer Bar (showing History or Favorites along the left of your screen), the Common Tasks Bar provides quick links in three categories: File And Folder Tasks, Other Places, and Details. These links, in one quick click, help you make a new folder; jump back to My Computer and My Documents; or view information about the currently selected drive, folder, or file. Sometimes, though, even the most useful tools get in the way. If you want to remove the Common Tasks Bar from your Windows Explorer views, or if it suddenly appears on your Desktop and won't go away, read on for guidance.

The basic and most familiar version of the Common Tasks Bar appears on the left side of most Windows folder views. Open My Computer or My Documents, and you'll have all the options laid out on the left by default. Some people prefer to reclaim that screen space and handle their common tasks from the menu bar or right-click context menu. If you're among them, just select Tools and Folder Options from any Windows Explorer view. Under the General tab, select the Use Windows Classic Folders radio button (instead of the default Show Common Tasks In Folders) and click OK. If you lose your Common Tasks bar and want it back, return here to fix the setting. To make the new setting universal, make your selection, click Apply, navigate to the View tab, select the Apply To All Folders button, and click OK.



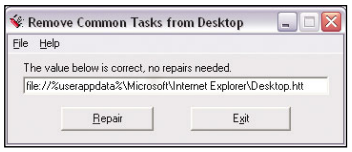
Turn the Common Tasks Bar off and on when browsing files and directories from the Folder Options menu.

There's another, much more annoying, version of the Common Tasks Toolbar. This one pops up on the left side of your Windows Desktop, taking up lots of space and refusing to go away. It can appear after downloading and installing various Windows themes, after changing display settings, or on its own as part of a Windows Registry bug that just pops up from time to time. Try the easiest fix first. Open the Start menu and select Run. Type **regsvr32 /i shell32** in the text box and click OK. You'll receive a dialog box confirming the operation's success, your system will revert to its default display and settings, and you should be rid of the Common Tasks nuisance on the Desktop.



Run this quick script to return settings to their default state and remove the Common Tasks Bar from the Desktop.

If that method does not work, you'll need to download a Registry tweak that modifies the relevant key. Visit www.kellys-korner-xp.com/xp_tweaks.htm and download the Remove Common Tasks From Desktop tool. The Kelly's Korner file (row 15 in the long list) is a Registry file. Save it to your Desktop or another easy-to-find location, run the file, and choose Run from the dialog box. Click Yes to confirm the Registry edit. A similar utility at www.doug knox.com/xp/scripts_desc/xp_commtask_desktop.htm downloads a ZIP archive that unpacks to an executable file you can run to check and correct the errant Registry entry. Again, choose Run after opening the executable and click Repair after the utility confirms that change's necessity. (Before installing either of these tweaks, it's a good idea to create a restore point.)



If simpler methods fail, download this utility from Doug Knox to fix the Desktop Common Tasks Bar entry in the Windows Registry.

Whether you're seeking to tweak your folder views or get your Desktop back the way you like it, an unwanted Common Tasks Bar isn't the worst computing problem you'll face. But there's no reason to put up with it when solutions are so easily accessible. ❚❚

BY GREGORY ANDERSON

Find Solutions Today!

Let's face it—there's nothing more frustrating than a computing problem. Wait, there is something more frustrating—not knowing where to go to find answers! The next time your printer won't print, or you get those pesky red X's every time you try to view pictures of your granddaughter's dance recital, search the Tech Support Center at SmartComputing.com. Simply click any one of the Top Subject links next to the search box or enter a keyword or two of your own. You'll find answers from our Solutions Knowledgebase and Basic Troubleshooting articles, as well as additional results from our editorial archive.

You can also find answers by browsing the Common Problems and Frequently Asked Questions areas that provide helpful translations and easy-to-understand solutions to numerous computing problems.

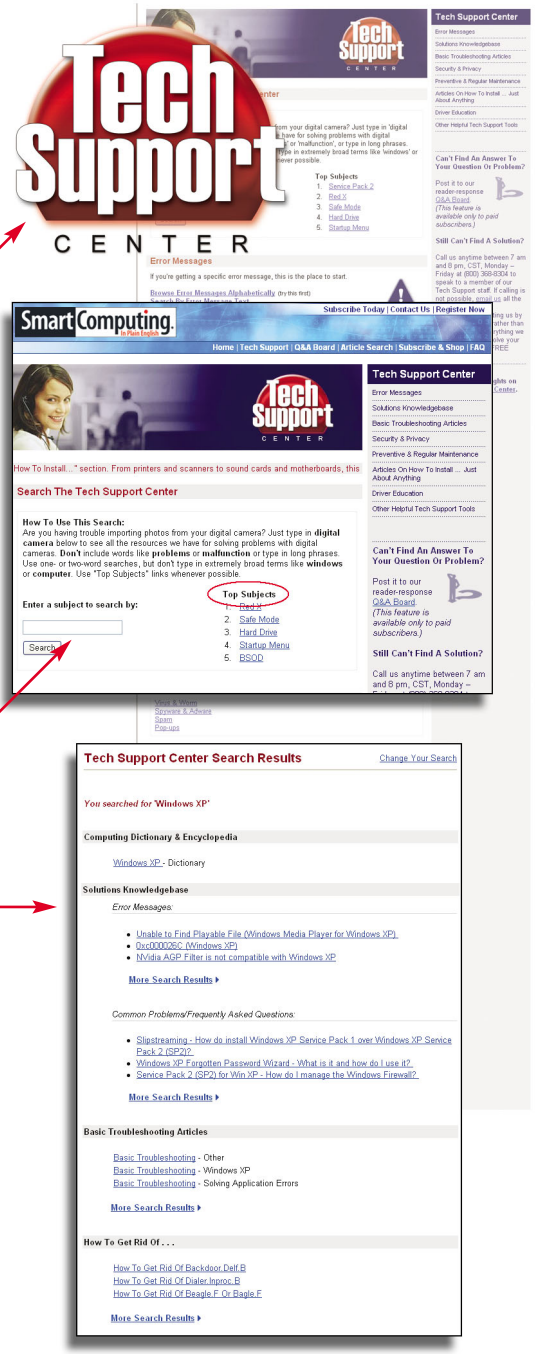
Simply log on to SmartComputing.com and find the answers you're looking for today!

Go to www.smartcomputing.com and click the Tech Support Center link.

In the Enter A Subject To Search By field, enter your subject of choice and click Search.

Browse articles from various sections, including Solutions Knowledgebase, the Q&A Archive, and much, much more!

If you can't find an answer to your question, try posting your question on our reader-response Q&A Board. (Keep in mind that this feature is available only to paid subscribers.)



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This Month In General Computing

Setting Up A Security Fortress For Your New PC

Tips To Successfully Install (& Uninstall) Scanners

Contributing Writers

Christian Perry
Jeff Dodd

Next Month

How Do You Know Whether Someone Is Spying On You?

Initiate A Security Lockdown

Don't Let Vermin Victimize Your New PC

To the owner, a new computer represents a whole new world of opportunity wherein fast speeds and boatloads of storage equate to more productivity, enhanced fun, and increased communications. But that same PC is similarly alluring to crackers, who can make instant mincemeat out of computers that go straight from the box to the home office to the Internet, with no security-minded stops along the way.

The landscape of computer threats is so wide and varied that securing a new PC demands a specific chain of user-led events to effectively avoid problems. High-speed Internet connections give crackers the ability to quickly scan networks for unsecured PCs and easily exploit any they find, so it's crucial to prevent intrusions even while building your initial security architecture.

Three Tiers Of Protection

To build that architecture, it's best to look at security from a three-tiered perspective. The primary tier should include high-priority Windows updates, antivirus software, and firewall software to protect against Windows exploits, viruses, worms, Trojan horses, and other Internet-based intrusions. These updates and software form your security core and work to repel most known dangerous attacks.

The secondary tier should include antispyware applications and specialized Trojan scanners to guard against spyware, adware, dialers, and Trojan horses that might sneak by your antivirus software.

The tertiary tier can include secure password programs, pop-up blockers, file-encryption software, file erasers, and any other programs that supply supplemental security for your PC.

For the new PC owner, the immediate focus should center on the primary tier because the existence of that tier will remove immediate worries about serious threats and let you move on to other security areas. This means that directly out of the box, your PCs needs firewall protection, followed by high-priority Windows updates and antivirus protection—all before you even think of emailing your friends or surfing your favorite Web sites.

The Crucial Tier

Before delving into security updates and software installations, it's a good idea to set a system restore point in case you encounter any problems along the way. From the Start menu, click Help And Support, click Undo Changes To Your Computer With System Restore, select Create A Restore Point, click Next, and follow the instructions to create the restore point.

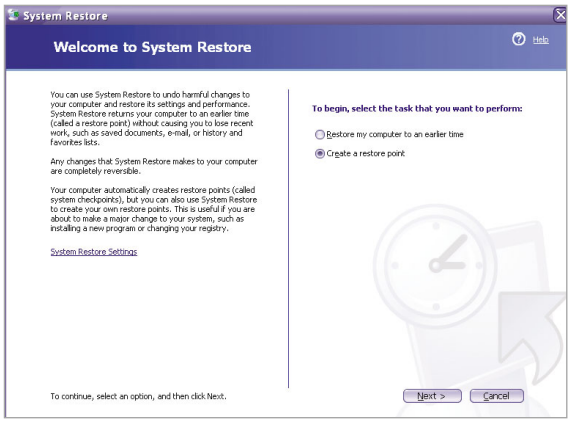
Also, make sure the Administrator password you created when setting up your new PC is strong. If you need tips on creating strong passwords, see "Build A Better Password" at www.smartcomputing.com/scoct05/password. To change your Administrator password or passwords for other user accounts, enter the Control Panel from the Start menu, click User Accounts, click the account in question, and click Change My Password.

Before going online, you must enable the bundled firewall, although it might already be enabled if your Windows XP installation includes SP2 (Service Pack 2). If you don't have SP2, you'll see an option for enabling Internet

Connection Firewall when configuring your Internet connection. (For more information, see www.microsoft.com/windowsxp/using/networking/learnmore/icf.mspx.)

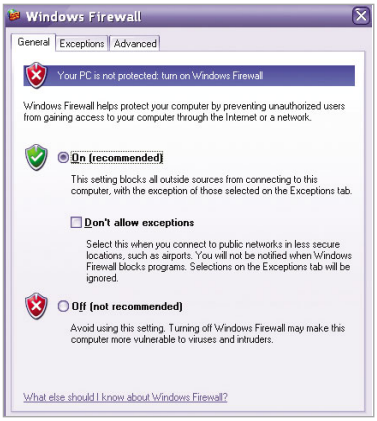
Some new PCs include third-party firewalls that might already be installed and running when users start their systems. If you're familiar with firewall software and can recognize that it's enabled and properly configured, leave Windows' firewall as inactive; otherwise, go ahead and enable Windows' firewall. Also, if your router or broadband modem includes a hardware-based firewall, you'll still need Windows' firewall or another software-based firewall, but we'll touch more on that later.

Even if you go directly to Microsoft's Windows Update site when you first go online, it's still wise to have some kind of antivirus software running before you log on to your Internet connection. If your new PC includes antivirus software, use that; if not, and you have access to the Internet via another computer, download a free antivirus program (see "Security On Sale" on page 52), burn it to a CD, and install it on your new PC. If your new computer didn't include antivirus software and you don't have access to the Web through another PC, be sure to download and install an antivirus program immediately after installing the Windows updates.



A restore point you set earlier can save you from problems that may arise during security installations (or even from security-related infections themselves).

With your firewall and antivirus applications ready to go, it is time to visit Windows Update to download and install high-priority updates. Most new PCs shipped today include WinXP with SP2, a comprehensive service pack of updates that patch many of WinXP's dangerous holes—but not all of them, so you'll still need to download and install Microsoft's latest high-priority updates. If your PC doesn't have SP2, you'll need to download and install SP2 before downloading any updates released after it, but Windows Update will determine what's necessary.



Before going online, it's critical that you enable the Windows Firewall or a third-party firewall to prevent crackers from exploiting unsecured ports.

Click Start, click Help And Support, and click Keep Your Computer Up-To-Date With Windows Update under the Pick A Task heading. (If you're using a third-party firewall, you'll likely need to instruct the utility to let Windows Update access the Internet.) Under the Keep Your Computer Up-To-Date heading, click Express to download high-priority updates, and then follow the prompts for installing them. If you still need to download SP2, you might need to return to Windows Update after installing SP2 in order to download additional updates; the utility will walk you through any necessary steps.

After you've installed all high-priority Windows updates, you should update your antivirus software and your firewall app (that is, if you're using a third-party firewall). If you're using Windows Firewall (previously known as ICF or Internet Connection Firewall), now is the time to download and install a third-party option (see "Security On Sale" on page 52) because even though Windows Firewall does an admirable job of stopping incoming attacks, it does little to thwart suspicious outgoing connections, such as those initiated by worms and Trojan horses.

Third-party firewalls monitor both incoming and outgoing connections, providing comprehensive network protection that you can trust. After installing and updating your new firewall, be sure to disable Windows Firewall in the Security Center (via the Control Panel). Windows can recognize most third-party firewalls, but if Windows warns you that a firewall isn't installed (even though it is), you can instruct Windows not to monitor your firewall, thereby eliminating the constant warnings. To do so, look back at the Windows Security Center dialog box, click Recommendations under Firewall, select I Have A Firewall That I'll Monitor Myself, and click OK.

The Windows Security Center dialog box also includes options for monitoring virus protection and automatic updates. The Automatic Updates setting should always be on, but you can choose whether to have Windows automatically download and install them, download them but let you choose when to install them,

or simply notify you when they're available.

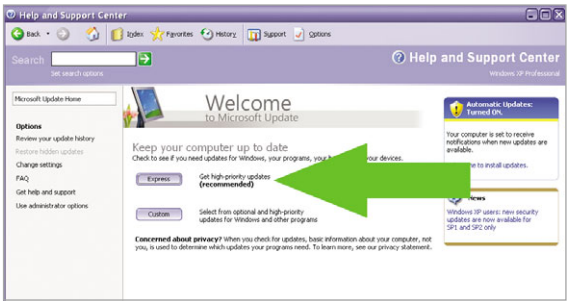
Stop The Spies

Now that your Windows updates, firewall, and antivirus software are good to go, you can breathe easily—but only for a moment. Before you begin surfing or performing any other online activity, you must protect yourself against other malware, including spyware, which can infest your computer within minutes, and additional threats that might slip by your antivirus software.

Several popular security suites now include antispyware utilities, so if you're using a suite that came installed on your PC, be sure to keep the antispyware portion updated and use its scanner frequently. Unlike antivirus and firewall applications, which can encounter conflicts when more than one application of the same category is in use simultaneously, the use of multiple antispyware utilities is actually a good idea. Although some antispyware utilities do a better job of catching spyware than others, no one utility is guaranteed to catch all possible threats at any given time.

There are several effective freeware scanners you can download and install (see "Security On Sale" on page 52), but keep in mind that these scanners won't do much to prevent spyware infections; instead, they'll remove spyware after it's already on your PC. To prevent spyware infection, consider using a utility such as Javacool Software's SpywareBlaster (www.javacoolsoftware.com) to block threats before they have a chance to install themselves on your PC.

In addition to antispyware applications, you also should have a specialized Trojan scanner that can detect and remove malware that antivirus utilities may not always catch. You won't find much freeware in this department, but the free version of Ewido Anti-Malware (www.ewido.net) does a nice job of removing Trojans, keyloggers, worms, dialers, and even some spyware and hijackers.



High-priority Windows updates are important for securing your environment because they'll patch massive holes that crackers use to easily breach unprotected PCs.

Although you can use antispyware to remove spyware, there's also software—such as SpywareBlaster—that prevents spyware from installing in the first place.

Tie Up Loose Ends

At this point, your new PC should have the ability to repel even the nastiest of attacks because you're protecting all of the most common vulnerabilities. However, there are still a few security checkpoints that, when addressed, can further help protect your PC, ensure your privacy, and shield you from potentially dangerous annoyances.

Pop-up blockers, such as those included with the Google and Yahoo! toolbars or Firefox and Opera Web browsers, can eliminate annoying ads and prevent you from accidentally clicking a risky link. Also useful is a password program such as Password Safe (free; passwordsafe.sourceforge.net), which keeps all of your passwords in an encrypted database that you can access using a single key. On a similar note, file-encryption software such as AxCrypt (free; axcrypt.axantum.com) can help keep your sensitive files away from unauthorized eyes.

Secure file deletion also is important for your new PC because when you move files to the Recycle Bin and empty it, those files can remain on your hard drive and be recovered using freely available recovery software. That's why you should consider a program such as Eraser (free; www.heidi.ie/eraser), which uses proven algorithms to overwrite your files in order to prevent anyone from recovering them; plus, it can overwrite previously deleted data that's lurking on your hard drive.

Full Steam Ahead

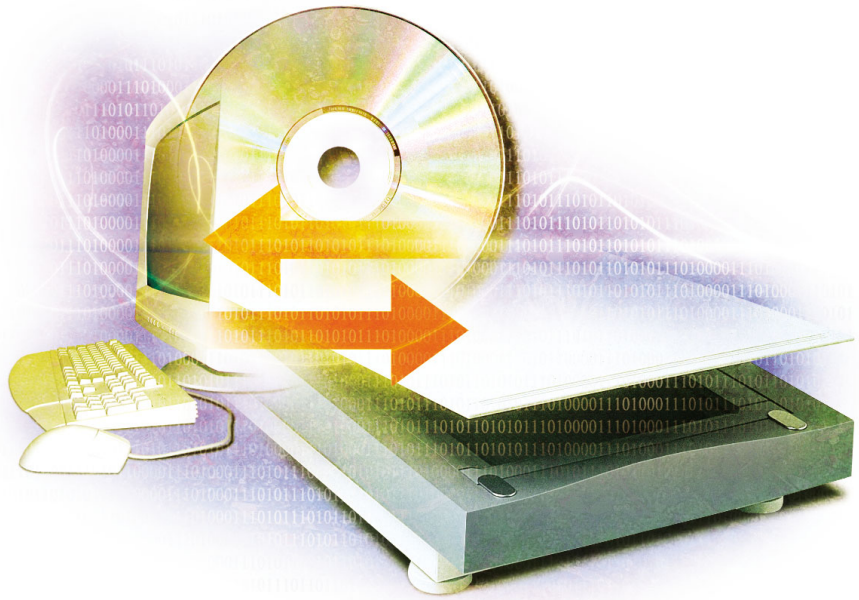
Although the temptation will be strong to immediately use your new PC for surfing, emailing, and other tasks, you can avoid malware infections that can easily spoil your fun by taking direct action to secure your PC the moment you remove it from its box.

When configuring this initial security, don't let distractions sway you from the task at hand. Other software that might be included with your new PC could require you to register online, but save those duties and other chores until your security environment is completely in place. That's also the time when you can begin experimenting with different firewalls, antivirus programs, and other security utilities to find the programs that best suit your needs. ■

BY CHRISTIAN PERRY

Trouble-Free Scanner Installations

Basic Steps To Ensure Smooth Results



On paper, the process of installing a scanner couldn't be easier. Plug in a power cord, connect a USB cable, and install the software—that's it. But in practice, this seemingly simple process can become mired in unexpected difficulties, as evidenced by the volume of scanner-related questions received by the *Smart Computing* Tech Support Center.

You could avoid many of these difficulties by following detailed instructions contained in a scanner's setup guide, but unfortunately, setup guides tend to be a little light on detailed instructions these days. That's where we come in. We installed an HP Scanjet 4890, a popular photo scanner currently on the market. Hopefully, our experience will help you successfully navigate your own scanner installation.

(*NOTE: Although installation particulars vary slightly from one scanner to the next, the general process remains the same. Of course, you always should defer to the setup guide when questions arise.*)

Step 1: Prepare For Installation

Installing hardware components has become an effortless endeavor. You just plug in the hardware and Windows does the rest, right? Well, not always. That's why you should consider the following preliminary measures.

First, back up all important files. With a full backup in hand—or on disc—you then should uninstall all unnecessary software and hardware, including any superfluous imaging components that may conflict with the new scanner. Open the Control Panel, select Add Or Remove Programs (in Windows XP) or Add/Remove Programs (in Windows 98/Me), and browse the list of installed programs for titles you no longer use. Follow the on-screen instructions to remove each one. Reboot the system between uninstalls. (You may wish to reinstall these programs later, so make sure you have the original discs on hand.)

Second, resolve any error messages you receive on a regular basis. Such errors, including those that have little apparent impact on system performance, can flare up and cause real trouble when you try to install a scanner.

We also encourage you to obtain all available Windows updates, as well as install updates for other imaging-related hardware you own, such as a digital camera or color printer.

Step 2: Close Open Applications

By consuming necessary system resources and running potentially conflicting operations, an open program can interfere with the installation of a scanner and its associated software. For this reason, you should close all open programs and disable all security utilities—including your antivirus utility—before continuing with the installation.

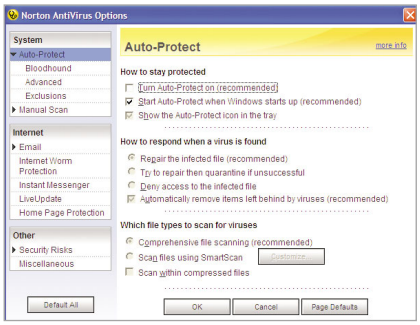
Don't close or disable your Internet connection because the scanner setup utility will most likely perform a search for product updates (see Step 5). You need to download and install whatever updates are available for your scanner at that time.

Step 3: Unpack The Scanner

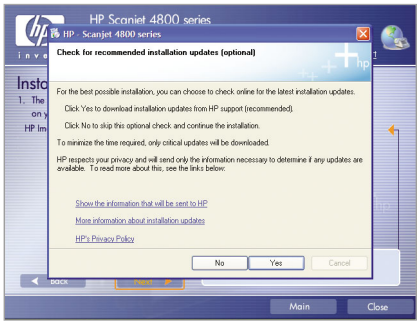
Remove the scanner from the box and set it on a flat surface. Carefully remove its product packaging. Verify that you received all necessary cables, discs, documents, and accessories for your scanner. Locate the setup guide and read it *completely* before proceeding.

You may need to partially assemble the scanner at this time. In the case of the Scanjet 4890, we had to plug in a cable that linked the scanner lid to the scanner bed. Follow the instructions that the setup guide provides for detailed information about assembling your particular scanner.

This also is a good time to clean the scanning surface. Dampen a lint-free cloth with glass cleaner and wipe the scanning surface in broad strokes. Use



It's important that you disable any security utilities, such as Norton AntiVirus, before installing your scanning software.



Leave your Internet connection up and running during the scanner setup so that you can download the latest updates for your particular device.

glass cleaner only, though, and do *not* spray the glass cleaner directly on the scanning surface.

Step 4: Connect The Power Supply

Locate the scanner's power supply, which is either one cable with a built-in power adapter or two separate cables—one serving as a regular power cable, and one serving as an AC adapter cable—that connect together.

Next, set the scanner's power switch to off and then connect one end of the power supply to the scanner. Plug the other end of the power supply into a grounded outlet or surge protector. Turn the scanner's power switch on. You should hear a humming noise as the scanner powers up.

Step 5: Install The Software

Don't connect the scanner's USB cable at this time because you must install the scanning software first.

Insert the installation disc into the computer and wait for the setup utility to appear on-screen. When it does, follow the on-screen instructions to launch the scanning software's installation. If you are given the option of installing various programs, choose to install the scanning software and hardware driver (if treated as a separate program) first. You can install auxiliary applications, such as Adobe Reader, at a later time.

Proceed step-by-step through the installation, reading the instructions carefully and following them completely. During the installation of the Scanjet 4890, we were prompted to check for product updates, review and accept the EULA (End-User License Agreement), indicate whether we wanted to run the scanner in energy-saving mode, and specify where we wanted to install the software. Follow the on-screen prompts to proceed through the installation's various stages.

Step 6: Connect The USB Cables

At some point during the software installation, the setup utility will launch a hardware installation wizard. This wizard will walk you through the process of connecting the scanner hardware to the PC. The process generally involves connecting one end of the USB cable to the scanner and then connecting the other end of the USB cable to the PC's USB port. Each end of the cable has a unique jack so there's no chance of confusing which end goes where. If the scanner supports the USB 2.0 specification, make sure you connect the cable to a USB port that also supports the high-speed specification.

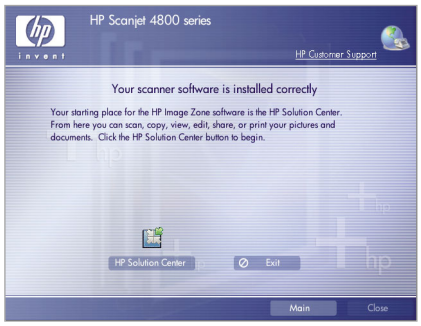
As soon as you plug the USB cable into the PC, the computer should detect it and a "Found New Hardware" message may appear on-screen. Disregard this message and follow the instructions provided by the scanner's setup utility to complete the process. As you did with the software installation, follow the instructions for the hardware installation exactly as they are presented.

You may be given the option of skipping the hardware installation at this point—which might be handy if you're installing the scanning software on a laptop PC and are away from your office, for instance—but we don't recommend skipping it. For best results, perform the installation when you can complete the software and hardware installations at the same time.

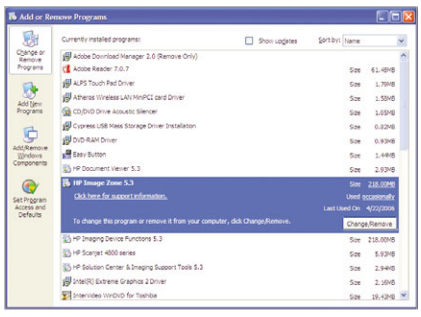
Step 7: Finish The Installation

It may take 15 minutes or more for the setup utility to install all of the necessary components and finish the installation.

At this point, you may be prompted to register the scanner. You should do so in order to obtain product updates and receive full warranty protection. You also may be prompted to install



After the setup utility finishes installing the scanning software, it may present a message indicating that the installation was successful. All you have to do now is reboot your PC and confirm that the scanner works.



Scanners tend to carry a lot of software baggage. HP's Scanjet 4890, for instance, installed five programs on our test system. When uninstalling a scanner, make sure you remove all of its associated programs.

more software or sign up for additional services. We recommend skipping these options for now. Close the setup utility, remove the installation disc from the optical drive, and reboot your PC to verify that everything is working as it should.

When Windows starts up again, execute a sample scan. Review the results to verify that the scanner is working properly.

Troubleshooting Tips

Users who encounter problems during the scanner installation should attempt several routine troubleshooting maneuvers before contacting the manufacturer for assistance. Start by verifying that the scanner's various cable connections are snug and secure. If the problem persists, disconnect the USB cable from both the scanner and the PC, turn the scanner off, and then turn the computer off. Let the equipment cool down for a minute or two. Then, turn the computer on, turn the scanner on, and reconnect the USB cable to the scanner. Reconnect the other end of the USB cable to a different USB port on the PC.

As a last resort, you should uninstall the scanner and its software so that you can try installing it again. To do this, remember to first close all open programs and disable all security utilities. Next, disconnect the scanner's USB cable from the computer. Access Add Or Remove Programs (WinXP) or Add/Remove Programs (Win98/Me) and uninstall all of the applications associated with the scanner.

Shut down the PC after uninstalling the software and let it rest for a minute or two as you verify that your PC meets the scanner's minimum system requirements. If it does, you should reinstall the scanner by following all of the instructions outlined in the scanner's setup guide. ■

BY JEFF DODD

HP Scanners That Won't Go Away

Of all the scanner-related questions we receive, one of the most common involves HP scanners. This particular type of problem occurs when the HP uninstall utility fails to remove all of the code associated with the unwanted scanner. Unfortunately, the problem doesn't manifest itself until the user tries to install another scanner and the new scanner's setup utility conflicts with the old code, resulting in an error message. Needless to say, the installation is foiled.

You can resolve the error by cleaning up the bits of code left behind. The easiest method is to reinstall the old HP scanner software and, after rebooting, uninstall it using Add Or Remove Programs in Windows XP or Add/Remove Programs in Windows 98/Me. Make sure you close all programs and disable all security utilities before performing the reinstall and the uninstall.

If that doesn't work or you no longer own the HP scanner, you'll have to remove the old code manually. Start by opening My Computer, accessing the Tools menu (in WinMe/XP) or the View menu (in Win98), and selecting Folder Options. On the View tab, select Show Hidden Files And Folders (WinMe/XP) or Show All Files (Win98). Click OK.

Next, access the PROGRAM FILES/HEWLETT PACKARD or PROGRAM FILES/HP folder on the drive where Windows is installed. Peruse its contents for an HP Instant Support DI or Memories Disc folder. If you find either one, eliminate it by right-clicking it and selecting Delete from the pop-up menu. While you're at it, look for a Digital Imaging folder. If you find one, open it and delete any subfolder that refers to the name of the old scanner (such as Scanjet 3570 or Scanjet 4070c).

When these folders are gone, locate the WINDOWS\TWAIN_32 folder on the Windows drive. Right-click it and select Rename. Type **Twain_32old** and press ENTER. Now you can close My Computer.

The next step involves editing the Registry, so you better create a backup of it first because making just one mistake could prevent your PC from booting properly. To back up the Registry in WinXP, use the Backup utility. WinXP Pro users have the utility installed by default, but WinXP Home users will need to visit Microsoft's Help And Support site (at support.microsoft.com/default.aspx?scid=kb;en-us;302894) for installation instructions. Once the utility is installed, open Backup (from the Start menu, click All Programs, Accessories, and System Tools), select Advanced Mode, click the Backup Wizard (Advanced) button, and follow the on-screen instructions to back up system state data. Take note of what you named the backup file and where you saved it.

Win98/Me users should back up the Registry by opening the Start menu, selecting Run, typing **scanregw** in the field, and clicking OK. When the Windows Registry Checker displays, click Yes and wait for the process to finish. The backup file is stored as RB0*.cab (where * represents a number between 00 and 05 in most cases) in the WINDOWS\SYSBCKUP folder on the drive where Windows is installed.

Now you can launch the Registry Editor. Open the Start menu, select Run, type **regedit** in the field, and click OK. In the Registry Editor window, open the HKEY_LOCAL_MACHINE\SOFTWARE\HEWLETT-PACKARD key. Peruse the list of subkeys for any that refer to Memories Disc or the particular name of the troublesome scanner. Delete these subkeys by right-clicking each one and selecting Delete from the pop-up menu. If you see a generic Scanjet subkey, open it and delete any of its subkeys that refer to your particular HP scanner. Close the Registry Editor when you finish.

Finally, reboot your computer and try reinstalling the new scanner. Hopefully, the installation will go off without a hitch this time. ■

This Month In Plugged In

Online Tips For Summertime Fun

Take On The Digital Universe

Contributing Writers

Mr. Modem
Carmen Carmack
Marti LaChance
Joshua Gulick

Next Month

The Fine Print Behind Online Music Services

Configure Your Router

Get Your Network Online

The central figure in a SOHO (small office or home office) network is the router. This small, innocent-looking box is what keeps everything connected and running smoothly. If you have tried to set up a router, or are interested in doing so, you might notice that the instructions aren't always clear. What's more, there's an alphabet soup of acronyms and terms to decipher. To help you make sense of it all, here's a closer look at routers and how to configure them.

Understand Router Basics

A **router** is a device that handles communication between two networks. In most SOHO environments, a router sits between a LAN (local-area network) and an ISP (Internet service provider). An ISP's network is a type of WAN (wide-area network).

Today, most routers are combination devices that handle multiple tasks. For example, routers commonly include a LAN switch and a wireless AP (access point). A LAN switch lets you connect computers to the router using an Ethernet cable. A wireless AP is a connection base for 802.11 wireless devices. Routers can also include built-in cable or DSL (Digital Subscriber Line) modems, print servers, and telephone connections.

Routers are most often used to share an Internet connection. Because most routers handle LAN switching, they also facilitate networking so that your connected computers can share printers and folders. Routers can provide additional features such as parental controls, secure remote access through VPN (Virtual Private Networking), and QoS (Quality of Service) for prioritizing important transmissions, such as VoIP (Voice over IP).

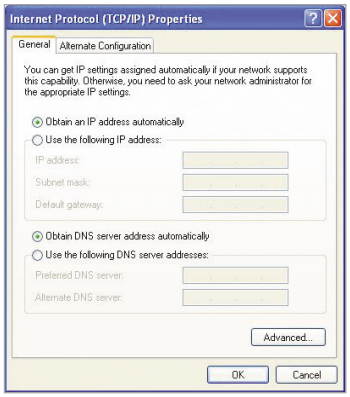
Routers also offer many security features to help protect your system, including NAT (network address translation). NAT protects your system by placing the router between your computers and the Internet. When you communicate on the Internet, only the router is publicly identifiable.

Where and what to buy. Vendors that sell a variety of routers and networking equipment include Belkin (www.belkin.com), Linksys (www.linksys.com), D-Link (www.dlink.com), and NETGEAR (www.netgear.com). Before you purchase a router for the purpose of sharing a high-speed Internet connection, confirm the type of Internet connection your system uses and any ISP requirements.

You also need to examine the computers and devices you plan to connect to the router. For a wired connection, your computers need an Ethernet network adapter, and the router must offer the appropriate number of ports to match the number of computers you plan to connect. Most newer computers have built-in network adapters, and you can purchase an adapter if needed. Desktop computers can use an adapter that plugs into a PCI (Peripheral Component Interconnect) expansion slot or a USB port. Notebook computers require a PCMCIA (Personal Computer Memory Card International Association) adapter or a USB adapter. You also need Ethernet cables to connect your computer(s) to the router.

For wireless access, confirm the 802.11 standards used by the PCs or other devices you want to connect. The router's wireless AP must match the 802.11 standard used by your devices. Note that the 802.11g standard is compatible with both 802.11g and 802.11b.

Where routers fit in. In most SOHO environments, the router connects a high-speed cable/DSL modem with the LAN computers. It manages the flow of data between the Internet (WAN) and the LAN. If the router supports wireless devices, the LAN can include both wired computers attached to the router with Ethernet cables and wireless computers "attached" to the router's wireless AP.



To make sure your wired computers can connect to your router, you need to verify TCP/IP settings in Windows.

Figure Out Router Configuration

Although many router manufacturers are devising wizards and other tools to simplify installation, the process can still be quite mind-numbing. To supplement the documentation supplied with your router, we will clarify the steps for configuring a router to share an existing high-speed Internet connection.

Router configuration primarily addresses two distinct types of connections: the LAN's connection to the router and the router's connection to the Internet. Knowing how IP (Internet Protocol) addresses are supplied is a key concept in configuring both.

Understand static and dynamic connections. Computer networks use TCP/IP (Transmission Control Protocol/Internet Protocol) standards that define the rules for how computers transmit information over networks and the Internet (a very large network). Every device on the network has an IP address for identification.

When your ISP supplies you with an Internet connection, it defines an IP address to identify your computer. Most ISPs use a **dynamic IP address**, whereby the IP address changes and is automatically assigned. However, some ISPs assign a **static IP address**, which is defined in your computer's TCP/IP connection information. Because your router replaces your computer for Internet communications, you must configure the router to use the IP address method supported by your ISP.

In addition to the Internet connection, the IP address scheme affects the router's connection with the LAN computers. This is dictated by the router's capabilities and configuration. Most routers offer automatic dynamic IP addresses through the **DHCP (Dynamic Host Configuration Protocol)** server feature, and this method is used most often. If you prefer, you can assign each computer a specific IP address and configure the router to communicate only with those IP addresses. Although highly secure, this configuration is relatively complex for SOHO networks. For our purposes, we assume your router will use the DHCP server feature and dynamic IP addressing when communicating with your LAN computers.

Find current Internet connection information. To configure the router's Internet connection, you need information about your existing connection. To obtain the information, you can consult with your ISP. You can also obtain information from your TCP/IP connection settings in Windows.

Check Windows TCP/IP settings. You can obtain some information about your Internet connection by checking Windows TCP/IP connection properties for your computer's network adapter. Note that you must perform the following steps at the computer that connects to the Internet.

For Windows 98/Me computers:

1. Click Start, Settings, and Control Panel. Double-click Network.
2. In the Network dialog box, select TCP/IP in The Following Network Components Are Installed list and click the Properties button.
3. Click the IP Address tab.
4. If Obtain An IP Address Automatically is selected, the Internet connection uses dynamic IP addressing. After you install the router, the computer will connect to the router using dynamic IP addressing.
5. If Specify An IP Address is selected, your ISP uses a static IP address. Record the configuration information from the IP Address, Gateway, and DNS Configuration tabs. Return to the IP Address tab and change

The front of a router features LEDs (light-emitting diodes) that indicate the router's status, including power, Internet/WAN connection, and LAN connections.

the selection to Obtain An IP Address Automatically so that the router can assign dynamic IP addresses to this computer.

6. Close the Properties dialog box.

7. If you have other Win98/Me computers on the network, make sure they are set to Obtain An IP Address Automatically. This applies to wired and wireless computers.

For Windows 2000/XP computers:

1. Click Start, Control Panel, Network And Internet Connections, and Network Connections.

2. Right-click Local Area Connection and click Properties.

3. In the This Connection Uses The Following Items list, select Internet Protocol (TCP/IP) and click Properties.

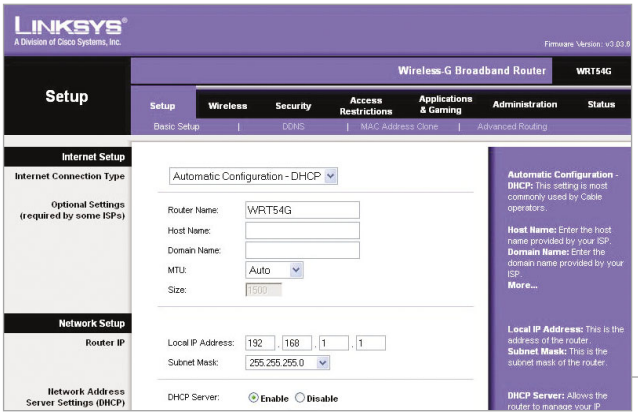
4. Click the General tab.

5. If Obtain An IP Address Automatically is selected, the Internet connection uses dynamic IP addressing. After you install the router, the computer will connect to the router using dynamic IP addressing.

6. If Use The Following IP Address is selected, your ISP uses a static IP address. Record the configuration information in the remainder of the Properties dialog box. So that the router can assign dynamic IP addresses to this computer, change the selection to Obtain An IP Address Automatically.

7. Close the Properties dialog box.

8. If you have other Win2000/XP computers on the network, they should also be set to Obtain An IP Address Automatically. This applies to wired and wireless computers.



The Linksys Wireless-G router configuration tool offers many options. This article focuses on basic setup and wireless configuration.

Connect The Hardware

Connecting the router, cable/DSL modem, and computers is straightforward. Although you should refer to your router's documentation for specific instructions, the following steps provide a general outline of the process.

1. Turn off the cable/DSL modem and unplug it from the electrical connection.

2. Shut down the computer that connects to the Internet.

3. Locate the Ethernet cable that connects from the back of your computer to the modem.

4. Disconnect the Ethernet cable from your computer and plug it into the WAN/Internet port on the router.

5. Plug a different Ethernet cable into a LAN/Local port on the router. Connect the other end to the computer's Ethernet connection.

6. Plug in and turn on the modem and wait for it to fully boot (about one to two minutes).

7. Turn on the router and wait one to two minutes.

8. Turn on your computer.

9. The following router LED (light-emitting diode) status lights should be on: Power, WAN/Internet, and LAN/Local for the port your computer is attached to. If any of the lights are not on, check your router's documentation for troubleshooting information.

Use The Router Configuration Tool

After the hardware is connected, you need to configure the router's Internet and LAN connections. Most routers include a Web-based utility for configuration. To access the utility, open the computer's Web browser and enter the router's default IP address (usually 192.168.0.1 or 192.168.1.1). Note that you should configure the router from the computer that formerly connected to the Internet.

The configuration tool displays a login screen. Most vendors ship the router with basic login information, for example, a blank username and a password of admin. Refer to your router's documentation for specifics. After the login screen, the utility displays a setup wizard or a set of setup screens. We will discuss the options in general so that you can apply them to most types of routers and configuration tools.

Configure The Internet/WAN Connection

To configure the Internet/WAN connection, you need your ISP's configuration parameters. In addition to the information you obtained by checking Windows TCP/IP settings, you can check your router manufacturer's Web-based support information

for details about configuring the connection for your ISP.

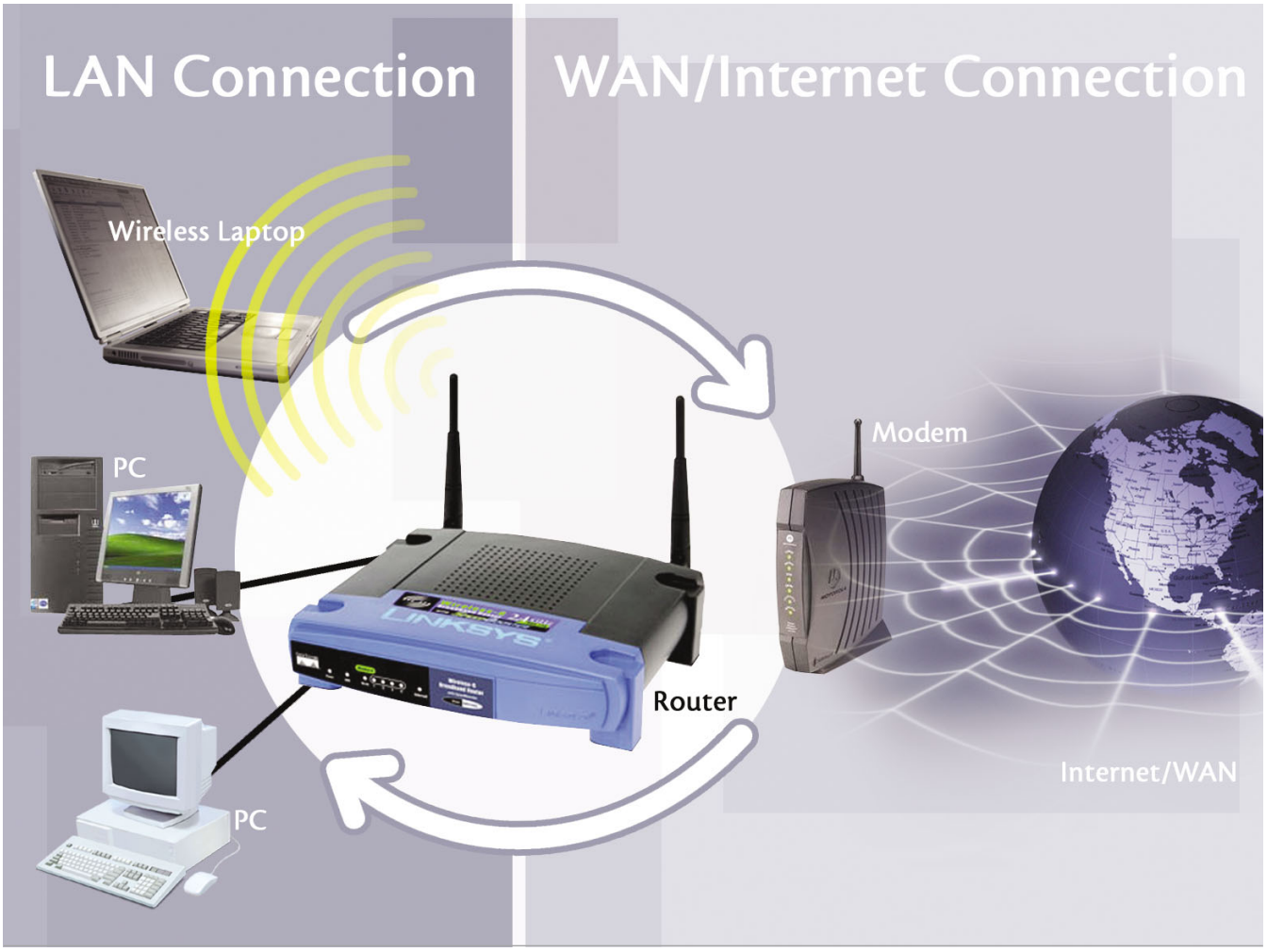
Connection types. The main types of Internet connections are dynamic IP, static IP, PPPoE (Point-to-Point Protocol over Ethernet), PPTP (Point-to-Point Tunneling Protocol), and L2TP (Layer 2 Tunneling Protocol). Most cable modems use dynamic IP. Static IP is generally for business connections and can be used in some SOHO scenarios. PPPoE is most often used by DSL service providers. European ISPs offer PPTP and L2TP connections.

Each connection type has a set of corresponding configuration settings. To address the connections typically used in a SOHO setting, we'll examine the dynamic IP, PPPoE, and static IP options. We also discuss the MAC (Media Access Control) address used by some ISPs.

Dynamic IP. For cable modems, the connection type is usually dynamic IP. Some router configuration utilities may label this option as DHCP, Obtain An IP Automatically, or Automatic Configuration DHCP. When you select dynamic IP, your router's configuration utility displays several corresponding fields. Hostname and Domain Name (or DNS) are fields required by some ISPs. MTU (maximum transmission unit) is normally determined automatically. It specifies the largest packet size permitted for Internet transmission. Some ISPs require you to define a specific value, which should fall in the 1200 to 1500 range.

PPPoE. For most DSL connections, PPPoE is the connection type. With PPPoE, you need to enter the username and password provided by your ISP. Also, make sure to select the Keep Alive or Always On option if it is present. This setting ensures your connection remains even when you aren't using it. Disregard any Connect On Demand or Manual options, and complete the Hostname, Domain Name, and MTU fields if required by your ISP. If you are using DSL with PPPoE, you need to uninstall or disable any previously installed PPPoE software in order to connect to the Internet via the router.

Static IP. If your ISP uses a static IP address to identify your computer's Internet connection, you need to define the IP address and related information in the router's configuration settings. The data is provided by your ISP, or you can obtain it from the Windows TCP/IP connection properties. The items you must specify for a static IP connection are the IP Address, Subnet Mask, Gateway, and DNS.



MAC address. To identify your computer, some ISPs use a MAC address in addition to an IP address. The MAC address is a unique code permanently assigned to every device, including your computer's network card. The router configuration tool provides an option for you to copy or clone the MAC address from the PC that connected to the Internet. The Clone MAC Address option copies the MAC address to the router so that it can handle communications with the ISP's network.

Configure The LAN Connection

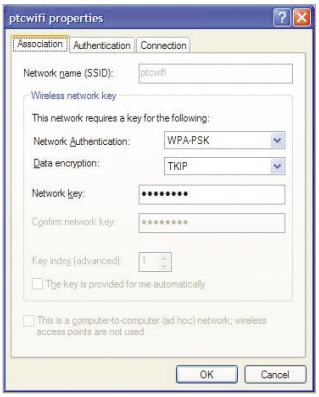
After the Internet connection is set in the router configuration tool, it's time to address the connections to your wired computers on the LAN. If the configuration tool offers options to enable or disable the DHCP server, select Enable (unless you have a different DHCP server on your LAN). You can also disable it if you want to manually configure your computers to connect to the router with a static IP address. As previously noted, this is an advanced technique that most SOHO users don't want to tackle.

You can improve security by using a combination of the Starting IP Address, Ending IP Address, and Maximum Number Of Users. By default, most routers will assign as many as 250 IP addresses. For example, if you know your network will never have more than 10 devices attached, you can use these fields to limit the pool of IP addresses to 192.168.1.100 through 192.168.110 and/or limit the number of users to 10. If you don't have the option to define an ending address, you can still limit the number of users.

Client Lease Time defines the length of time an IP address is assigned to a computer. Changing the default value (usually one day) is normally unnecessary. Preferred DNS or Static DNS refers to the DNS (Domain Name Server) that translates a Web address, such as www.pctoday.com, into an IP address (12.39.144.6). Your ISP provides this service, but you can define a different server if you prefer. WINS (Windows Internet Naming Service) is another method of managing Internet interactions for some Microsoft servers and is not common on SOHO networks.

Other Settings

The Internet and LAN configuration options are the basic settings required by routers. Routers can serve multiple purposes and offer additional features, many of which come with configurable options. For details, check your router's documentation. Because many routers include a wireless AP, we will address wireless configuration options.



To communicate with a wireless router, all of your computers' wireless connection settings must match the router's settings.

Wireless AP. In the router's configuration settings, the wireless fields define the network's wireless security and transmission signal. From the router's point of view, these are LAN settings for wireless devices. The previous information about LAN connections applies to any wired computers on the network, and most wireless routers handle both LAN and WLAN connections.

Typically, you define the wireless network Mode. This indicates the type of wireless signal the router should transmit, for example, 802.11b, 802.11g, mixed (both 802.11b/g), or none. The **SSID** (**Service Set Identifier**) is the name of the WLAN and consists of a maximum of 32 letters and numbers. Most vendors ship the router with a generic SSID name, such as linksys. For security reasons, change this to a unique name. Be sure to write down the name for future reference.

Save the router settings and verify that your wireless PCs detect the WLAN and can connect to it. Then disconnect and log on to the router's configuration tool using the original Internet computer's Web browser. Proceed to the router's wireless security settings. Wireless encryption sets the level of encryption for wireless data transmitted over the network. The encryption method on the router and wireless network adapters must match. Most 802.11g wireless network adapters support WPA (Wi-Fi Protected Access), which is stronger than the original WEP (Wired Equivalence Privacy) encryption. If offered by your router, choose WPA2-PSK, WPA-PSK, or WPA.

With WPA, keys on networked computers and devices are automatically changed and authenticated. If WPA options are not available or not supported by your wireless network adapter, select WEP. Write down any information related to encryption settings. After you save the settings, you must configure the wireless connections on your wireless devices to use the same encryption scheme and key information.

Another security measure is to disable the SSID Broadcast. Your router will cease identifying the WLAN to external devices. Doing so means that automatic network detection features do not locate the WLAN. Manually enter the SSID and deselect any options to connect to nonpreferred networks.

Test & Rest

To complete the router configuration, test your connection and add any additional wired and wireless PCs to your network. Once your router is configured and running, you'll rarely need to change its settings. ❚❚

BY CARMEN CARMACK

Introducing The Digital Universe

An Alternative To The Web?

Imagine a Web experience that provides expert-reviewed text and high-end multimedia content; is private and safe; and has almost no advertising.

The experience exists today in the Digital Universe (www.digitaluniverse.net). It is a well-funded, growing effort aiming to re-create the Web as a serious source of information.

The Digital Universe project was formally announced in January, but the project has been underway for several years. Its technical infrastructure is managed and partially funded by ManyOne Networks. Overseeing content is the Digital Universe Foundation, which boasts high-flying members including Larry Sanger, formerly of Wikipedia, and Lawrence Lessig, founder and chair of the Creative Commons project.

Information Ideals

The Digital Universe's founders, Internet entrepreneur Joe Firmage and astrophysicist Bernie Haisch, believe they've devised an online experience with a sustainable financial structure that will save us from today's Internet, a place littered with unreliable and superficial information, as well as ads.

"People are increasingly disgusted with the over-commercialization of the Web," says Firmage. "We want to put human knowledge online, sans trivia."

The Digital Universe, or DU, consists of hundreds of subject areas, or portals, covering topics such as earth, energy, and the universe. For each portal, there is an expert guide, called a steward, who seeks out the best information online.

DU stewards are typically published academics working in related areas, often in formal groups called coalitions. For another, DU portals provide authoritative information from places such as the BBC, NASA, and other professional, often governmental, institutions. Also, many portal stewards actually provide content themselves.

Wikipedia Plus

"It's the same basic idea as Wikipedia, the online encyclopedia," explains Firmage. But the Digital Universe aims for something far grander. With its interconnected, theme-based portals, the DU reveals a more holistic approach to information. It provides visual pathways to topics and interrelated categories. And although laymen may contribute to DU portals, the emphasis primarily is on expert knowledge. "It will be a nucleus for scholars and experts," Firmage says.

It is DU's focus on high-quality content that's caused some stir. Larry Sanger, one of Wikipedia's founders, left Wikipedia for the Digital Universe because he felt the quality of Wikipedia content couldn't be guaranteed.

As the director of distributed content programs at DU, Sanger helps build coalitions of content experts. "By 'expert,'" he jokes, "I mean expert in the conventional sense—not in the Internet sense." He foresees creating coalitions for every area of human knowledge, totaling several dozen, he says. And Sanger expects content to be neutral and free from bias. "We want people from every point in the dialectical landscape in any given field."

Subscribers For Support

The Digital Universe plans to support its high standards and its physical infrastructure with a subscription system that will pay stewards for their efforts. "One-half of the net revenues from subscriptions are distributed to content partners," Firmage says. The other half goes to maintaining the Digital Universe infrastructure.

Why subscribe? Registration is required to access the Digital Universe, but the information is free. So why subscribe? Simply, to show support for the project. Perhaps that's why Firmage calls the DU the National Public Radio of the Web. People will subscribe (prices vary depending upon your setup), he says, "Because people want

something better." He adds: "We want to take back the Web."

Through ManyOne Networks, the Digital Universe provides high-end Internet services such as email addresses and Internet connections: services that organizations in turn can provide for their own members. Eventually, the DU will provide high-end services such as online gaming and Internet television.

Explore The Digital Universe

Registered users log on to the Internet as usual and open a Web browser. Click the browser's DU link. Enter your username and password.

Portal to portals. You're greeted by a split screen filled with colorful photo icons. Above are featured portals. Below you see the portal structure of the Digital Universe. Mouse over an icon in the lower window, and its subportals hover above. Click to select one and enter a portal. Navigate the content from a menu on the right. Read recent related news stories, get general overviews of the topic, or read more in-depth.

The first portal to be built was the Earth. Navigating the Digital Universe takes getting used to; with so many choices, it's easy to lose your bearings.

But the structured environment of the DU is not for mindless surfing. It is a place for scholarly attention. The idea is to read and absorb, not simply scan.

Look and feel. Most portal entries are in fact pages from existing Web sites. Although enclosed in the Digital Universe, these pages tend to look as if they belong elsewhere, which gives the interface a hodgepodge look.

Hidden stewards. Another quibble is that visitors do not get a sense of the stewards overseeing these portal worlds. It would be reassuring to know the stewards' names and to learn, for example, where his or her expertise lies. Serious scholars and students will want to examine a steward's writing and perhaps even a résumé.

High Hopes & Hurdles

The ambitions for the DU are grand: to supply the public with high-quality information. The founders plan to activate 500 portals by the end of the year and thousands more by the end of the decade. There are plans for an improved search engine, a 3D navigational interface, online tools for stewards and laymen to add content, and interactive elements such as chat and multimedia audio and video.

To keep track of the project, we recommend reading the public roadmap on the Digital Universe home page. It outlines DU plans as they're unveiled. Sanger's blog provides good updates too.

In the first quarter of this year, the DU had over 10,000 members, although not all of them are paid. Co-founder Bernie Haisch admits there are challenges. "It is important to be raising capital and to be forming relationships with individuals and institutions," he says. "Another challenge is organizing people, gaining momentum."

The Digital Universe appeals to the intellectual, idealistic side of human nature. And many of us will likely subscribe to an online environment where data-gathering is the primary object.

But there is much about the present-day Web that appeals to another side of human nature. It's unrealistic to expect people won't still want to Google acquaintances and and trip through Flickr photos.

Perhaps the Digital Universe will coexist with the World Wide Web we've come to depend on. The DU makes for an ideal parallel universe. ❚❚

BY MARTI LACHANCE

Meet A DU Steward

What does it take to become a steward for the Digital Universe? Shawn Mikula, steward for the Brain Portal, exemplifies the qualities: scholarly dedication, mastery of his subject, and a good feel for communicating online. Mikula recently earned his Ph.D. in neuroscience from Johns Hopkins University and currently works as a postdoctoral fellow at UC Davis.

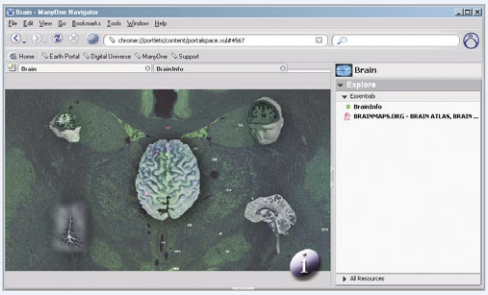
A specialist in neuroanatomy, Mikula has devised a method for putting brain maps online.

When he read about the Digital Universe in December 2005, he knew he was the right person to steward the Brain Portal. He filled out an application and submitted his résumé to the Digital Universe Foundation. Somewhat to his surprise, he was tapped, along with one other neuroscientist, to steward the Brain Portal. Ultimately, it will cover all facets of neuroscience.

"I am trying to provide a resource for neuroscience," he says, in part referring to his Web site Brainmaps.org (brainmaps.org). "There is so much data in my field, it's hard to see it all at once." Mikula's Web-based tool helps researchers map the brain. It's like Google Maps, but for the brain, he says.

"I have a strong desire to get the job done right, to get neuroanotomical data online in an interactive and useful form." Mikula cites DU's Larry Sanger as an encouraging influence. "He conveys well his vision that the Digital Universe is a place for experts in their fields to make info available."

To be a good steward, he says it's important to think like a designer. "I like to make information exciting, fun, and aesthetically pleasing. There's not enough of that on the Web now. I really want to see if the DU can come up with something different." ❚



WEB TIPS

Enhance Your Time Online

Free Tax Payments Online

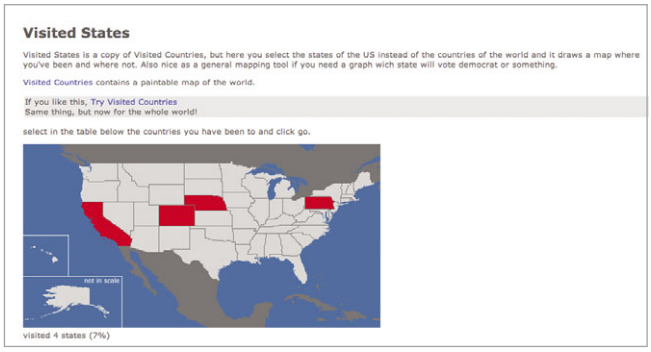
Problem: I got hit with a huge tax bill this year. Someone suggested I make quarterly estimated payments—can I do this online? Will it cost me extra?
Solution: With the ever-increasing popularity of electronic tax filing, many contenders have stepped into the ring to help you make tax payments online. A couple of months ago, Web Tips mentioned Pay1040.com (www.pay1040.com), an IRS-authorized payment provider. Yes this site charges a processing fee. If you want to skip the fee, go straight to the government-run site EFTPS (www.eftps.gov). This Electronic Federal Tax Payment System does not charge a fee; however, it only accepts payment through bank transfers out of your savings or checking account. Don't have the available cash and want to pay by credit card? Then you have to cough up the fee for Pay1040.com.

Wine Time

Problem: I have a growing interest in wine, but I'm having a hard time keeping track of all the wines I like.
Solution: The upscale magazine *Wine Spectator* has a Personal Wine List feature, which is only available to online subscribers for $49.95. Instead, check out MemWine (www.memwine.com). Simple, functional, not much to look at, and it doesn't have exactly the same features, but it does mostly the same: You can save a list of wines you've tasted with notes on what you liked and didn't like. MemWine also gives you the ability to view your selections via your cell phone.

What To Read Next

Problem: I'm always interested in getting recommendations for what books to put on my to-read list. Amazon offers a recommendation service, but it seems to be driven more by books you've bought rather than book you have read.
Solution: While it's true that Amazon.com's Recommended For You service is initiated by books you've purchased through Amazon.com (www.amazon.com), you can refine this feature by searching for a book you bought elsewhere and selecting the small I Own It checkbox, located right below the price. You can also edit your purchases if you don't want gifts you got for others to affect your recommendation. Want to skip Amazon altogether? Check out What Should I Read Next? (www.whatshouldireadnext.com). Theoretically, you can enter a single title, and this site will tell you what's next. Readers may find that the service works better if you register and build a list of your favorites.



Display the states you have visited via this online map.

Travel Map

Problem: My spouse and I are big travelers. We're proud that we've visited almost every state in the union. We used to have a big map of the United States with pushpins showing everywhere we went, but we don't have the space for it anymore.
Solution: If you have space for a PC, you can make a map like this online. Visit the Visited States project (douweosinga.com/projects/visitedstates), and click all the states you've been to. You'll see a rendered map with your states in red.

Not-So-Subtle Reminder

Problem: My "friend" owes me money. I'd like to give him a gentle nudge to pay me back, but I don't want to come right out and ask for it.
Solution: If your neighborly goodwill has been stretched to the limit, there's a Web site that's looking to help you out. It's called UOME (www.U-owe-me.com), and it claims to "tip toe around those delicate situations." After registering, you can send an ecard reminder that payment is due. We're pretty sure sending an ecard that says, "Darling, your tired, sad, little sob story is breaking my heart. Nevertheless, you need to pay me!," isn't gentler than a polite email. But if black humor is your thing, this site's all you.

EFTPS
Electronic Federal Tax Payment System

Pay quarterly, monthly, or weekly tax estimates directly through the government's site.

COMPILED BY JOSHUA GULICK
ILLUSTRATED BY LINDSAY ANKER

Summer Celebration

Cool Works

www.coolworks.com

Summer jobs are still what they used to be, but you have to look harder to find them these days. To that end, Cool Works posts exciting jobs and internships from all over country. Want to work at a resort? No problem. A state or national park? Sure. If you're looking for a get-off-the-couch-and-get-a-job motivator for your teen, we suspect a link to this site will do the trick. That said, the site doesn't target only teens—adults can find plenty of seasonal work. If you're an RVer, check out the Older And Bolder area.

FirstGov.gov

www.firstgov.gov

If you're looking for some fun facts about the birth of the United States, head on over to FirstGov's Independence Day section. The government site, which acts as a portal for other government sites, links to fireworks safety tips and information about what fireworks each state allows or prohibits. You'll find safety tips for grilling and American recipes. The site also links to the National Archive's Declaration Of Independence section, which includes an image of the document, as well as a transcript. Kids can take a quiz that helps them learn about the Declaration Of Independence. Don't overlook the other quizzes in that area, though: There are plenty of fun questionnaires that cover such topics as Presidents & Baseball and First Ladies.

Fourth Of July Celebrations Database

www.american.edu/heintze/fourth.htm

James R. Heintzes's collection of Fourth of July celebrations research makes for a great read in advance of the national holiday. The site has Fourth of July speeches (including those by former presidents), as well as stories that will entertain the kids for hours. You'll find much of the information on the main Fourth Of July Celebrations Database page, including detailed descriptions of important celebrations throughout the nation's history.

Kaboose

www.kidsdomain.com

This family-friendly site has tons of Fourth of July fun, including crafts and games. The site has some messy ideas, such as Celebration Seltzer Rockets (they're safe, at least for the kids) and Paint Fireworks With Marbles (think marbles, paint, and kids). We also like the Seasons Greeting Blocks and Make Your Own Flag projects. On the games side of the 4th Of July section, you'll find Create Your Own Fireworks (a completely online fireworks project) and the United States Quiz game. From Kaboose's main page, click Holidays and then click 4th Of July.

The Smoke Ring

www.thesmokering.com

Every good barbecue chef should bookmark The Smoke Ring's top-notch Web site. Not surprisingly, the Barbecue Articles section covers all things barbecue. BBQ chefs will find plenty of tips here, including a collection of barbecue sauce recipes (of course) and tips for cooking prime rib. Don't overlook the article about Smoke Ring members cooking for Katrina evacuees. The site also details barbeque contests and has a great How To section that covers special ribs and grills. The site links to hundreds of barbecue Web sites.

U.S. Census Bureau

www.census.gov

Have you ever wondered how much money the United States spends on fireworks in a year? Neither have we, but we were intrigued when we learned from the U.S. Census Bureau's Web site that the nation imported $164.2 million in fireworks from China in 2004. If you're looking for fun factoids, check out the site's small collection. The page covers facts for the Fourth of July 2005. Although the Census Bureau targets the info at publishers, we think you'll get a kick out of some of these numbers (such as the number of states that have more than $1 billion in chicken broiler revenue). From the main page, click Facts For Features and then click Facts For Features: The Fourth Of July 2005.

Waterparks.com

www.waterparks.com

The World Waterpark Association's site helps visitors locate waterparks all around the world. If you're looking for U.S. waterparks, click the map on the main page and then click the appropriate state in the next map. More On This Park buttons link to each park's dates of operation, hours, Web site addresses, and phone numbers. The site also has safety tips that help kids avoid heavy sun exposure and waterslide accidents.

That's News To You

Finding the appropriate Usenet discussion group to match your interests can be a monumental task. So each month, we scour tens of thousands of newsgroups and highlight ones that delve into popular topics. If your ISP (Internet service provider) doesn't carry these groups, ask it to add the groups to its list. This month we get the burgers and ribs and trade stories over the grill.

alt.food.barbecue

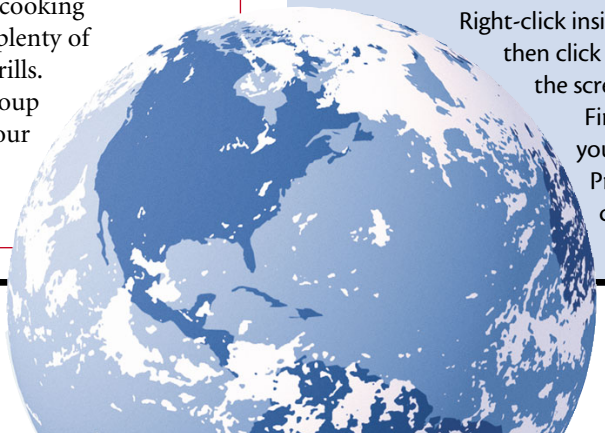
Getting ready for some summer barbecuing? Find some new sauces and share your own BBQ treats.

alt.sailing.asa

If you haven't already, it's time to hitch the boat to the car and head for water. If you're landlocked today, dream online with other sailors.

rec.food.equipment

Although users here discuss and trade all kinds of cooking tools, you'll find plenty of messages about grills. Check out this group before you buy your next grill.



Share The Wares

Some of the best apples in the online orchard are the free (or free to try) programs available for download. Each month we feature highlights from our pickings. This month, we put some fireworks in your screen saver lineup.

Phantom Fireworks Show

www.fireworks.com

Phantom Fireworks offers a fun screen saver that displays an appreciative crowd below brightly colored fireworks. The screen saver is small (only 2.63MB), which means dial-up users can download it in a reasonable amount of time. Phantom, a fireworks company, offers the screen saver free.

To download the screen saver, click the Fun Zone button and then click Fireworks Screensaver. Click Download For Windows (there's also a Mac version available), which appears under a picture of the screen saver, and click Save when the File Download – Security Warning window appears. Double-click the downloaded setup file to start installation. Next, right-click the Desktop and then click Properties. Click the Screen Saver tab. You'll find that the Phantom Fireworks Show appears in your Screen Saver list by default. The Wait field displays the number of minutes the screen saver waits to appear when your computer is idle.

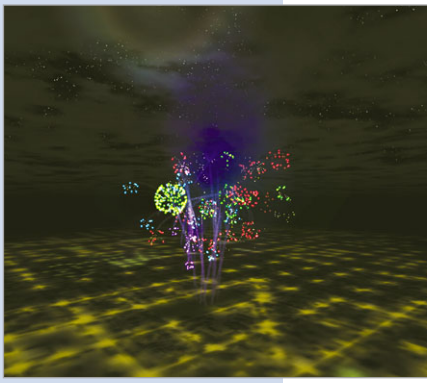
Really Slick Screensavers Skyrocket

www.reallyslick.com

Whether you're stuck inside on July 4 or simply want to see some sparks fly, check out the free screen savers at Really Slick Screensavers. All of the screen savers have plenty of bright colors, but fireworks fans will love Skyrocket, which features colorful explosions in a night sky. The screen saver includes audible booms and even lets you determine which rockets launch (via your keyboard keys).

Really Slick Screensavers packages all of its screen savers into a single setup file. To download them and start the Skyrocket screen saver, click Downloads on the site's main page, and then click the link at the top of the page. Next, choose a mirror, which is a server that hosts Really Slick Screensavers' file. Click Download and then click Save when the File Download window appears.

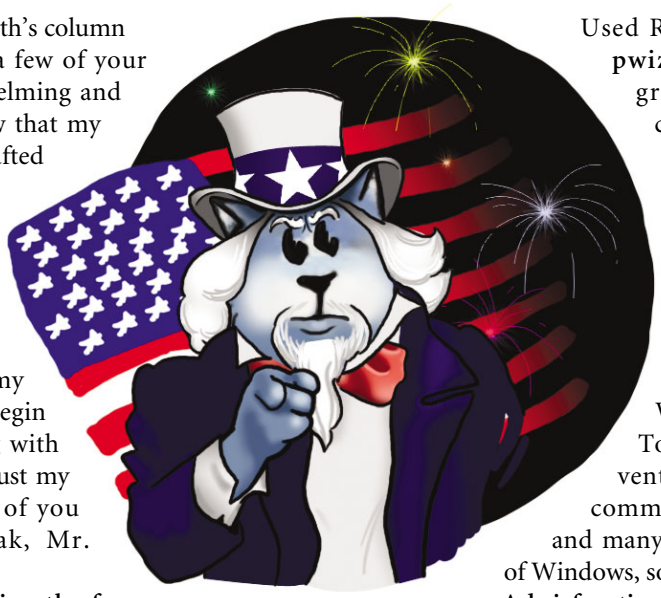
Save the file to your Desktop and then right-click it. Click Extract All and then follow the wizard's instructions to extract the files to a folder. Open that folder and then double-click Openalweax.exe, which installs a file the screen savers need. Finally, copy the screen saver files (they have an .SCR extension) and then open your hard drive. Open the Windows folder and then System32. Right-click inside this folder and then click Paste to deposit the screen savers. Finally, right-click your Desktop, click Properties, and click the Screen Saver to select the Skyrocket screen saver.



Press the S key to see information about how well Skyrocket is performing on your computer.

More From Mr. Modem's Mailbag

The response to last month's column in which I answered a few of your questions was overwhelming and extremely gratifying. To know that my carefully selected, lovingly crafted words touched the hearts, minds, and keyboards of so many of you—and that you took the time to share your generous thoughts with me—made me weep openly. What better way to express my profound gratitude than to begin this month's literary offering with another question or two? It's just my humble way of letting both of you know that when you speak, Mr. Modem listens.



Dear Mr. Modem: I'm using the free Mozilla Firefox browser (www.mozilla.com/firefox), thanks to your recommendation, and I really like it. Can you tell me how I can print Web pages in a larger font? Many thanks, and please give my regards to your bifocals.

A. I don't like to brag, but I recently upgraded to trifocals. The steps for printing with a larger font are virtually identical whether you're doing the Firefox trot, using Internet Explorer, or running Netscape: Click File and Print Preview, and adjust the Scale setting accordingly. Try 125% for starters and then experiment with several increases to determine what best suits your peepers.

Q. I'm reading and hearing a lot about RSS these days. Can you explain what it is, Mr. M?

A. RSS, or Really Simple Syndication, is a Web site format for syndicated content that's used to deliver news and information. RSS makes use of a type of programming (XML) that continually scans the content of a designated Web site for updates, then broadcasts those updates to all subscribers. In order to receive RSS feeds, you must have an aggregator, also called a news reader. The free Google Reader (reader.google.com) is one of many available on the Web.

You can add a Web site to your reader in one of two ways. Most sites that offer an RSS feed have a clickable RSS or XML button that will add that feed to your aggregator. On other sites you may need to copy and paste the URL of the feed into your reader. Instructions will be provided on each site.

You're probably familiar with the Run Command **msconfig**, which is used to display Windows' System Configuration Utility. To execute a Run Command, click Start and Run, then enter the command, and click OK or press ENTER. A few of my favorite FURCs (Frequently Used Run Commands) include **appwiz.cpl** for Add/Remove Programs, **calc** for the Windows calculator, **control desktop** for Display Properties, **control folders** for Folder Properties; **main.cpl** to access Mouse Properties; **taskmgr** for the Task Manager, **firewall.cpl** for the Windows Firewall, **control printers** for Printers & Faxes, **tourstart** for the Windows XP Digital Mystery Tour, and **wordpad** for—care to venture a guess? All of the above commands work with Windows XP and many will work with other versions of Windows, so give 'em a try.

A brief notice on Western Union's Web site earlier this year heralded the end of a technological era by announcing that the company will "discontinue all telegram and commercial messaging services."

When I read that, a wave of wistful nostalgia washed over me. I remember years ago, the uniformed Western Union messenger delivering the little yellow sheet of paper bearing news, happy and sad. STOP. It was the fastest way to communicate in writing years ago, and being the recipient of a telegram was both exciting and scary. STOP. Today, the ubiquitous cell phone, email, text messaging, and other soul-less forms of communication have delivered the telegram into history. STOP. (Semi-interesting trivia: Telegram senders saved money by using the word "stop" instead of periods to end sentences. Punctuation cost extra, while the four-character word "stop" was free.)

As a personal postscript to the demise of the telegram, I found some measure of comfort in knowing that new and better communication tools are emerging. If you would like to witness first-hand an example of the latest in cutting-edge communications technology, visit tinyurl.com/qhjw6 where you'll receive a personal message from Klaus, my personal assistant. (Truth in columning: Not for the humor-challenged.) ■

BY MR. MODEM

Mr. Modem (Richard Sherman) *is an author, syndicated columnist, radio host, and publisher. "Mr. Modem's Weekly Newsletter" provides personal responses to subscribers' computer and Internet questions, plus weekly computing tips, Web site recommendations, virus alerts, hoax warnings, and more. For additional information, visit* **www.MrModem.com.**

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HOLDER-CF-8-VAN $8.99

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- D610
- D620
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256MB $29.98

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DELL INSPIRON
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Shopping For FREEWAR SHA

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Low-Cost & No-Cost Apps That Make Web Surfing A Breeze

Is your computer sluggish? Do you see a lot of error messages? Are you worried about viruses and spyware infiltrating your hard drive? Name any computer problem, and there are dozens of applications and utilities designed to get things working again, but the problem many users have is paying the amount listed on some applications' price tags. Add up the money you might shell out for a decent antivirus application, spyware detector, system enhancement utility, and other essential software, and you could just about buy a new PC.

Shareware and freeware helps keep that cash in your pocket. Shareware is try-before-you-buy software that usually is available as a free download that its users must register after a certain period of time passes or when they use the software a certain number of times. Registration involves sending the shareware programmer (or company) money, but the fee generally is much

RE & FREEWARE

Because Your Broken-Down PC Shouldn't Make You Go Broke

smaller than the purchase price of a comparable software package you'd buy off the retail shelves because development and distribution costs for shareware authors is relatively low.

Freeware is much like shareware, only there is no fee involved for home users. They can download and install the software and use it forever. But freeware developers do expect you to pay a fee if you use their software for commercial purposes.

Generosity & Advertising

Many times in life you get what you pay for, and while that notion is sometimes true in the case of shareware and freeware, there are an astounding number of free or low-priced applications that are as good as—or better than—their commercial counterparts. This is especially true when it comes to system utilities and applications that are designed to enhance commercial software because talented programmers often design tools to help themselves, and then they give other users access to those applications once they finish perfecting them.

In addition, there are commercial software companies that release freeware versions of their expensive business-class products as a form of advertising. For example, ALWIL Software (www.avast.com) sells commercial versions of its antivirus products, but it also offers a full-featured, free antivirus product to individual home users as a form of advertising for its money-making products.

Most of the best antispyware utilities also are free. Plus, many of the greatest data compression tools, Web browser enhancement applications, and other system utilities are only available as shareware or freeware.

Freedom Isn't Always Free

There are surprisingly few downsides to using shareware and freeware. You won't typically receive the same level of technical support that you'd get by going with the big companies, but most shareware and freeware developers provide extensive documentation for their products and are quick to respond to email queries. Phone support, however, is rare because most shareware and freeware developers don't have the staff or financial resources to field phone calls.

The biggest potential problem is that shareware and freeware downloads are fraught with security concerns. For example, these types of downloads provide a perfect avenue to deliver viruses, spyware, and other malicious or unwanted software to your hard drive, so if you don't know how to spot such offenders, it's easy to end up with far more problems than the ones that prompted you to download the utilities in the first place.

Fortunately, it's very easy to find legitimate shareware and freeware downloads once you know where to look for them. We'll talk about that aspect throughout this featured section, along with various ways you can stay secure as you're testing out shareware in our "Initiate A Security Lockdown" article on page 32. Once you know what types of programs to look for and where to download that software, the biggest problem will be choosing from the abundance of excellent, legitimate shareware and freeware, and that's the kind of problem nobody minds having. ❚❚

BY TRACY BAKER

SECURITY ON SALE

These Apps Are Heavy On Security, But Light On The Wallet

Most of us wouldn't trust a free security system to guard our homes, but the concept of free security software is an entirely different situation. In fact, security freeware has a long history of providing adequate protection against viruses, spyware, network intrusions, and other threats—even while that same collective malware category grows ever more sophisticated.

Security freeware doesn't contain all the bells and whistles that adorn premium software, but for many users, this is a welcome respite from the resource-hogging, system-overtaking habits of some big-name utilities. On the downside, many free programs don't provide quite the same level of protection as their premium counterparts, but when properly configured and regularly updated, they do stop most threats.

Antivirus Software

When it comes to your computer security, you don't want to skimp in the antivirus department because one undetected virus could have serious consequences for your system and data. But with a choice of several free, efficient antivirus utilities, you don't need to pay big (or any) bucks for that protection; and better yet, you won't need to wrestle with bloated applications that jam in every feature but the kitchen sink.

AVG Anti-Virus Free Edition. Although you'll get a fraction of the features found in AVG Professional, Grisoft's AVG Anti-Virus Free Edition (free.grisoft.com) still leaves you with a reliable utility that catches practically all viruses—with no hassle. Regular updates keep this program constantly on top of the latest threats, and automatic scanning makes sure your system is clean, even if you forget to use the scanner. A rudimentary interface provides quick access to scanning and resident shield options, including email scanning, as well as other tools. (AVG Professional costs $38.95 for a two-year license. See www.grisoft.com for more information.)

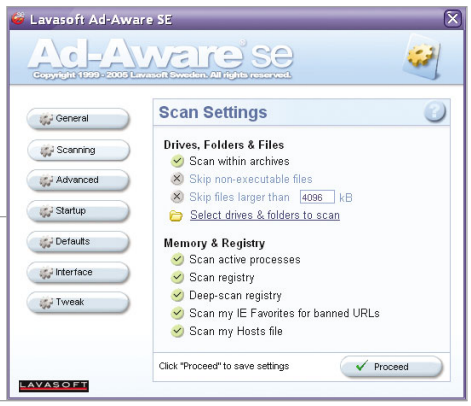
AntiVir PersonalEdition Classic. With the ability to detect and remove more than 80,000 viruses, Avira's AntiVir (www.free-av.com) provides solid protection against most of today's viral beasties. AntiVir even protects against previously unknown viruses using heuristic detection, which watches for virus-like patterns to catch new malware. Through its System Tray icon, the utility's on-access scanner provides an instant view of its current status, including the name of the last file it scanned.

avast! 4 Home Edition. This free, feature-packed utility from ALWIL Software (www.avast.com) integrates elements typically found in premium products, including Web Shield, which monitors and filters HTTP (Hypertext Transfer Protocol) traffic for malware, and Network Shield, which works on systems using Windows XP to protect against Internet-based attacks such as worms. The avast! 4 program's resident protection offers multiple settings to fine-tune your antivirus environment exactly as you see fit, including email options for scanning various protocols and a separate plug-in for Microsoft Outlook.

BitDefender 8 Free Edition. If you need effective on-demand virus scanning, BitDefender 8 (www.bitdefender.com) serves as a decent free option because of its powerful scanning engine and convenient scheduling abilities. However, for email protection and resident antivirus protection (that is, if you want your antivirus software to catch viruses on its own without performing a scan), you'll need to consider one of the other options we mention in this article.

Firewalls

Your broadband modem or network router might already include a firewall, but these firewalls generally stop only rogue traffic trying to *enter* your computer. But if your computer



Ad-Aware delivers a host of configurable options that let you fine-tune your spyware-hunting scans for additional speed and thoroughness.

becomes infected with a Trojan horse, worm, or similar malware, that malicious program may try to connect to the Internet, which is an action that your hardware-based firewall won't stop. That's why you still need a software-based firewall to catch and stop these rogue programs and their communications in both directions. The software-based firewalls we cover here also tend to be more effective than the firewall Microsoft includes with WinXP SP2 (Service Pack 2) because the latter firewall doesn't address outgoing connections.

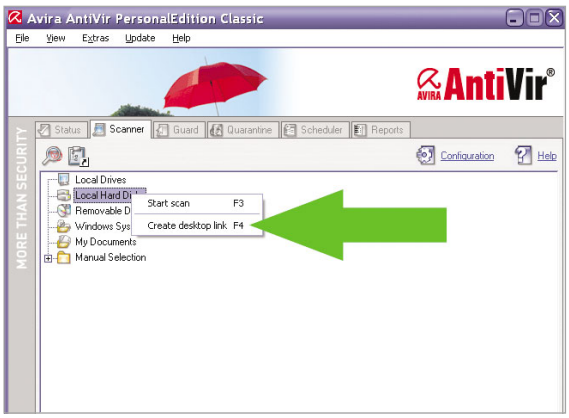
Kerio Personal Firewall. In the first 30 days of using Sunbelt Software's Kerio Personal Firewall (www.sunbelt-software.com), you'll enjoy such features as pop-up blocking, cookie blocking, host-based intrusion prevention, and others. After that, you can pay $19.95 to keep those advanced features, or you can continue to use the firewall for free in a limited mode that's still effective. Although it isn't flashy, Kerio's interface is functional and easy to navigate, with comprehensive views of running programs, statistics, and other information.

ZoneAlarm. This well-known, trusted firewall from Zone Labs (www.zonelabs.com) continues to be a popular choice among home users, thanks to its wealth of options, ease of use, and free price tag. In addition to basic firewall functions that block suspicious incoming and outgoing activity, ZoneAlarm includes an Internet lock that blocks online traffic when you're away from your computer—you can even set it to activate when the Windows screen saver appears. Plus, a setup wizard and sliders make configuration simple even for firewall novices.

Outpost Firewall. If you have some experience with software-based firewalls, check out Agnitum's Outpost Firewall (www.agnitum.com), which packs oodles of settings into its modest interface. Although it's not as user-friendly as other free firewalls—Outpost requires some tweaking to get network settings working properly—you'll appreciate such features as plug-ins that permit ad blocking, domain blocking, spyware blocking, and more.

Antispyware

Today's free antispyware utilities may not be quite as effective as antispyware premium programs, but the free utilities still deliver reliable service and effectively detect most spyware-related threats. Also, unlike the warning we gave you about antivirus applications that create conflicts when more than one is running on a computer, we recommend using multiple antispyware programs—doing so is an efficient part of any user's security strategy.



If you like your virus scanning on the convenient side, AntiVir lets you create Desktop links that instantly start any particular scan you choose.

Ad-Aware SE Personal Edition. Long regarded as a trusted ally in the war against spyware, Lavasoft's Ad-Aware program (www.lavasoftusa.com) remains an effective tool for identifying and removing threats. This free utility is now better than ever, featuring a scanning engine that scours extended memory (including modules loaded by processes) and can even identify new and unknown variants.

Spybot Search & Destroy. If you need an effective, no-frills, spyware-scanning app that can identify and remove most threats, Patrick M. Kolla's Spybot Search & Destroy (www.safer-networking.org) is a wise choice. In addition to basic scanning tools that target cookies, Internet dialers, browser hijackers, keyloggers, Trojans, and other malware, Spybot S&D features immunization tools for Internet Explorer and Opera that help block suspicious plug-ins and other downloads. Spybot S&D also provides a wealth of fine-tuning options that let you alter the way the program scans and removes spyware.

Microsoft Windows Defender. Previously known as Microsoft AntiSpyware, Windows Defender (www.microsoft.com/athome/security/spyware) is the antispyware tool that will appear in the company's upcoming Windows Vista OS (operating system), but in the meantime, the current Beta 2 version is freely available to any WinXP SP2 user (and will remain free when it's finalized). This utility features a basic but slick interface that's easy to navigate and understand, in addition to a powerful scanner that catches a wide range of threats. As Windows Defender identifies such threats, the program alerts users with pop-up messages that indicate suspicious activity.

SpywareBlaster & SpywareGuard. Although today's free antispyware apps are getting better at preventing spyware infections, their main focus remains on identifying and removing spyware after the threats infect your computer. However, Javacool Software's SpywareBlaster (www.javacool-software.com) works primarily on the prevention side, blocking spyware-related threats from installing and executing. And the company's SpywareGuard program delivers a real-time scanning engine, along with download and hijacking protection.

Pop-up Blockers

Once the plague of the Web, pop-ups, pop-unders, and flash ads aren't quite the problem they used to be, thanks to new-age browsers and browser plug-ins that curtail even the most persistent annoyances. Unlike antivirus software, antispyware, and firewall programs, you don't necessarily *need* a third-party program to address pop-ups, but just in case you want one, we have some suggestions.

Google Toolbar & Yahoo! Toolbar. Although the latest IE version includes a pop-up blocker, Google Toolbar (free; toolbar.google.com) and Yahoo! Toolbar (free; toolbar.yahoo.com) provide more efficient, transparent, IE-based protection against such annoyances. (Plus, Google Toolbar also works with Firefox.)

These plug-ins add a toolbar to your browser to provide advanced Web search options along with pop-up protection (both of which are somewhat configurable). For example, you can choose to hear a sound each time one of the toolbars blocks a pop-up ad.

Firefox & Opera. Firefox (free; www.mozilla.com/firefox) and Opera (free; www.opera.com) each include built-in pop-up protection that works so seamlessly that you might occasionally forget that pop-ups exist. Of course, effective, nonintrusive pop-up protection isn't the only advantage these browsers have over IE; they also include a host of other useful tools and functions that many IE users never knew existed for browsers.

Proxomitron. For more advanced computer users, Scott R. Lemmon's Proxomitron (free; proxomitron.info) operates as a proxy between your browser and the Web to filter out pop-up ads, blinking banners, and other annoyances. Although this program is no longer under development, the current version still works well, but be warned: It's somewhat difficult to configure and is incredibly powerful. (Granted, power isn't such a bad thing when battling pop-ups.)

Enjoy The Bargain Hunting

Keep in mind that like other freeware developers, the creators of most free security programs allow for only home and noncommercial use, whereas a fee applies for business licenses. So, even if you have a small business, be sure to read each program's terms and conditions before installing them on any of your business computers.

Security freeware is plentiful and varied, so don't feel locked into a certain firewall or antivirus program if you don't like the way it looks, feels, or operates. However, if you plan on trying multiple antivirus or firewall utilities, be sure to uninstall your currently installed utility and reboot your computer before installing another one to avoid potential conflicts or system instability. In addition, you can install multiple pop-up blockers, but it's best to use only one at a time because the use of multiple active blockers tends to create conflicts.

Regardless of whether the programs are free or fee-based, most security applications aren't effective if you don't regularly update them. Take advantage of automatic update options (if available), so you can set the updates according to a schedule. For programs that don't include automatic update options, plan a day and time each week when you can manually update all your programs—and be sure to stick with the schedule. ❚❚

BY CHRISTIAN PERRY

The Freeware/Spyware Scare

Strolling through a meadow one sunny day, you stumble across an apple tree brimming with red, ripe fruit. You grab an apple from a nearby branch, take a bite, and recoil in disgust as you discover it's infested with worms. The same can happen with freeware, because even though some free programs might appear enticing, they could be riddled with spyware, viruses, or other malware.

Shady software developers don't hesitate to load their programs with utilities that track your surfing habits or even perform virus-like activity on your computer. Although most of today's popular freeware is free of this type of content, there remains some that are outright dangerous to use, regardless of any incidental benefits they might provide.

In addition, there are devious developers out there who are notorious for creating bogus antispyware programs, some of which hijack your browser, install their own spyware, and secretly download and install other software. You can use a program such as Spyware Warrior (www.spywarewarrior.com) to keep a constant eye on these parasites and maintain a thorough list of programs to avoid.

Just remember that while searching for freeware, never simply download and install a program that appears among the results of your Web searches. Instead perform a little research by plugging the program's name into Google Groups (groups.google.com), which provides access to more than 1 billion Usenet postings spanning 25 years. Of course, you also can perform standard Web searches trying to find reviews about the program, but be careful not to fall for advertising copy created by the developer. ❚

PATCH & DETAIL YOUR PC

Top Bargain Apps For System Repair & Customization

For many of us, the idea of tidying up our PC is on par with a trip to the dentist. We know it has to be done, but we avoid it as long as possible, and we cringe at the thought of any pain we might have to endure. Like that dreaded dental visit, however, the reality of putting a PC in order oftentimes turns out to be much better than what we had envisioned.

That's especially true if you use an inexpensive program for customizing or repairing your system. Useful freeware and shareware programs make it a cinch to affordably organize your PC, back up files, recover lost data, clean the Registry, and otherwise optimize your computer. Here are some of our favorites.

Backups

Acronis True Image 9.0 Home. Before making any changes to your system, it's wise to back up all your critical files and other data. It's also wise to create a restoration point that captures your PC's entire working state, including the OS (operating system), user settings, and applications. Acronis True Image Home ($49.99; www.acronis.com) can do all of these things.

Use the drive-imaging component to create an image of the entire hard drive and use the file-based backup component to back up files and folders you specify. Features include a scheduler for automated backups, storage on a hidden partition on your hard drive, and the ability to adjust data compression levels. Try it out for yourself with the free 15-day demo.

Backup To DVD/CD 5 & Backup Made Simple 5. Willow Creek Software offers two options for backing up folders and files: Backup To DVD/CD 5 and Backup Made Simple 5 ($29.95 each; www.willowsoft.com). Both programs let you choose the files to back up, and they automatically track files when you add, rename, move, and delete them. Both programs also let you confirm whether a backup was successful, and the synchronization feature reconciles files on two computers.

As the names suggest, Backup To DVD/CD backs up data to DVDs and CDs without using compression, and Backup Made Simple compresses data so that you can back it up via other media. Other than that, the two programs are nearly identical. You can download either program and test it out fully for 90 days, but after the trial period ends, the program's backup features do not work. If you decide to purchase an unlimited-use license, simply register the software; doing so will disable the program's expiration date and allow you to use all features for an unlimited length of time.

Second Copy 7. If you're looking for a way to quickly back up key files and folders, be sure to look at Second Copy from Centered Systems ($29.95; centered.com). With Second Copy, you can create a group of profiles in which each profile is a set of file and folder specifications. You simply tell Second Copy what information to copy, which profile to copy it to, and when to copy it, and Second Copy does the rest.

In addition, Second Copy automatically monitors changes and creates backups for any such changes; plus, it will send you an email alert when it finishes. You also can use the software to copy the entire hard drive to a backup drive. A fully functional version of Second Copy is available for a free 30-day evaluation period.

RKopie 3.0. The name may look and sound foreign (it's Dutch for "backup"), but you would most likely guess that "kopie" means you can copy critical files for easy recovery should you ever need to use these backup copies. RKopie (free; home.hccnet.nl/s.j.francke/rkopie/rkopie.htm) features a user-friendly interface, a wizard for creating backup jobs, along with the ability to drag and drop files while creating backups. Plus, it will identify and delete redundant files in your backup archive, as well as compress compatible files.

The application contains two notable limitations—it backs up no more than 65,535 files, and the archives can't be larger than 4GB—but it has no time or functionality limitations.

Registry Cleaning

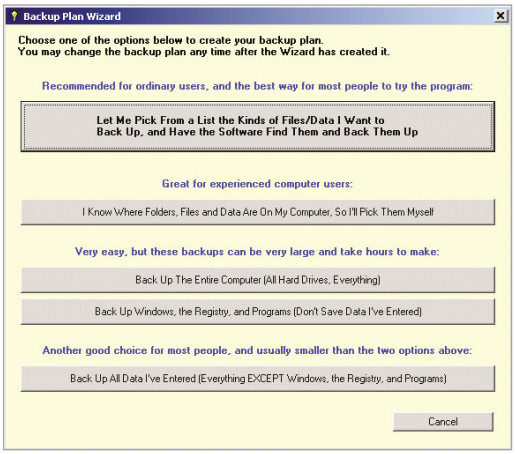
Registry First Aid 4.3.1. Over time, as you install and uninstall programs or simply use your PC, your Registry becomes clogged with bits of computer gunk—remnants of files that clutter the database and slow down performance. Registry First Aid from InfiniSource ($27.95; www.rosecitysoftware.com) comes to the rescue and heals what ails your system.

The application's wizard-like interface walks you through diagnosing your Registry's invalid or bad entries and scanning the hard drive for missing files. It also offers a cure by showing you which items need attention, and it provides prevention in the form of its ability to save a backup copy of the Registry before you attempt any fixes. The shareware agreement states that unregistered users may evaluate Registry First Aid for a period of 30 consecutive days, after which they must uninstall the program or register a copy.

Registry Mechanic 5.2. One of the most popular Registry cleaner applications, with more than 300,000 downloads each week, PC Tools' Registry Mechanic ($29.95 per year; www.pctools.com) is an extremely user-friendly shareware program. It promises to leave your Registry as clean as the application's interface, which has easy-to-use buttons for scanning your Registry, improving your system's performance, and compacting and optimizing your Registry. You can reverse changes made while using the software, thanks to the backup it performs with every Registry alteration.

The full version of Registry Mechanic is available only on a yearly subscription basis, but the subscription price also includes free customer support via email and unlimited upgrades. Or you can download the free version, which has limited functionality.

TweakNow RegCleaner Standard 2.6.9. If paying nothing for a decent program excites you, you'll really be enthused about TweakNow RegCleaner Standard (free; tweaknow.com). This application, which is free to those who do not use it for commercial purposes, identifies obsolete entries in your Registry, automatically creates a backup file, and then deletes those outdated or inaccurate entries. It's easy to use, too; the simple interface has two scan modes (Quick Scan and Custom), two user modes (Beginner and Expert), and a large Clean Now button.



Protect your data by using a backup application such as Backup To DVD/CD from Willow Creek Software.

The software developer touts the program's speed, but you can test those claims for yourself by trying out the free online demo. For a more comprehensive program, be sure to investigate RegCleaner Professional. It costs $24.95, but it includes a more powerful Registry scan engine and has a Registry Defragmenter, the latter of which organizes and rewrites scattered parts of a file for the purpose of maximizing information storage.

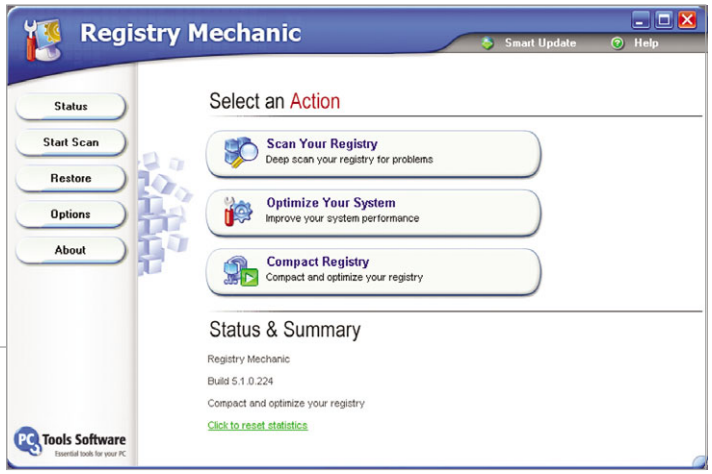
NTREGOPT, NT Registry Optimizer. Don't let the name fool you because only part of it is correct: NTREGOPT is a Registry optimizer that works on Windows NT systems, but it *also* works on Windows XP and Windows 2000 systems.

NTREGOPT (free; www.larshederer.homepage.t-online.de/erunt) scans your Registry and re-creates each hive (also known as a node, a subtree, or a handle key) from scratch, eliminating any extra space. The app doesn't alter any contents, nor does it defragment your Registry files. Instead, it compacts the Registry to the smallest possible size.

System Optimization

Advanced System Optimizer v2. A Registry cleaner can be a great cure for a lethargic system, but it isn't the only type of software that can help. General optimization tools also can get your PC back into shape, and that's just what Systweak's Advanced System Optimizer ($39.95; systweak.com) has in store for your system. This suite of 30 tools carries a mélange of system information tools, optimization tools (Windows Optimizer, Memory Optimizer, and Registry Defragger & Optimizer), cleanup tools (System & Disk Cleaner, Startup Cleaner, Autorun Manager, and Find Duplicate Files), and more. Download its 30-day trial version to see how it works for your system.

Smart PC 3.3. Fix, clean, optimize, and protect your PC: These are the four main goals of the Smart PC program. On the repair side, Smart PC ($29.95; smartpctools.com) tweaks your Registry for optimal performance and fixes invalid shortcuts in the Start menu or on the Desktop. On the cleaning side, the program removes junk and duplicate files, protects personal data, and cleanses your Registry. On the optimize side, the application fine-tunes several Windows settings. And on the protection side, it eliminates hidden files generated by your Web surfing habits.



To improve your system's performance, Registry Mechanic optimizes, scans, and compacts Windows' Registry.

For a more high-powered application, consider Smart PC Professional ($49.95), which has some useful advanced features, such as the ability to clear out autofill information (data automatically entered into online forms). Or you can compare both versions via their 30-day free trials.

StartUp Organizer 2.8. Even though all-in-one tools can be valuable, there are times when you simply want one tool that does one thing really well. That's where StartUp Organizer from MetaProducts ($25; metaproducts.com) steps in.

When you start your PC, a myriad of unnecessary programs can slow down your startup process, and it isn't always easy to identify or disable them. StartUp Organizer helps you figure out which programs are running, how to safely deactivate the unneeded ones, and how to make backup configurations. Plus, you can skip programs with basic keyboard strokes, change the order in which programs launch, or time it so some programs are delayed when running consecutively. You also can evaluate the program for 30 days for free before you are required to purchase a registration key.

System Information & Organization

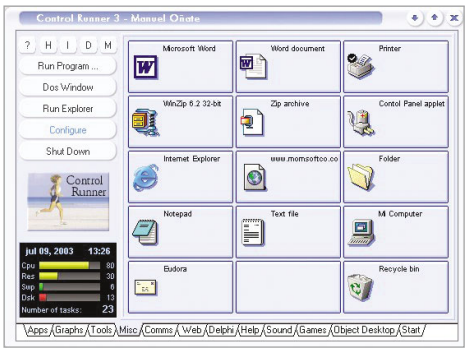
ASTRA32. If simply knowing how much free drive space you have isn't enough, you can really "geek out" with Sysinfo Lab's ASTRA32 ($29.95; www.astra32.com). In a Windows-like interface, ASTRA32 can give you details about items on your PC that you may not even have known you had. It serves up data on the CPU, motherboard, display, video card, sound card, NIC (network interface card), printer, hard drives, installed programs, DVD devices—and the list goes on. It also includes a troubleshooter for drivers, and it can run in batch mode. If you're looking for a similar but less expensive (as in, free!) program, download the demo version to receive basic hardware and software detection.

Control Runner 3.1. Every Windows PC has a Start menu, and *almost* every PC has a Start menu that's become so cluttered that its user can't find anything. If you're using a PC with what seems like a gazillion installed programs and you want easier access to some or all of them, MomSoft's Control Runner ($29.95; momsoftco.com) can be of assistance. This application lets you group related applications and documents and launch any of them with just a couple of mouse clicks.

Users who consider themselves to be "visual learners" will appreciate the way Control Runner organizes the PC's Desktop. Many users also will appreciate the dozens of skins from which they can choose. Check it out for youself with the free 45-day trial period.

Disk Watchman 1.8. It has happened to most of us at one time or another: You want to install a new program, and although you know your PC meets most of the system requirements, you have no idea how much free drive space is available (even though you vaguely remember how to find that information within Windows). Disk Watchman from MetaProducts ($27; metaproducts.com) puts that information right at your fingertips. Not only does it tell you how much free and used drive space you have at any point in time, it also sends alerts when drive space is low.

In addition, the program includes a tool for finding drive space reserves, and it quickly and easily walks you through the process of freeing up space consumed by temporary, duplicate, or unneeded backup files. Like many other MetaProducts applications, this one is available on a free 30-day trial basis, after which you'll need to buy a registration key.



Control Runner helps you organize programs and data in a visual manner.

NikNak. If nothing else, we'd want to include NikNak in our roundup of useful freeware and shareware simply because it has a fun name, but, of course, there's plenty more to it than that. NikNak (free; www.comsoft.co.nz/niknak) is a utility that can keep you on top of your system resources. The dockable bar sits on your Desktop and

displays, among other items, your CPU usage, memory usage, free hard drive space, as well as the date and time. Plus, it tells you the exact data transfer speed of files you download from—or upload to—the Internet. In addition, add up to 90 programs to your QuickStart menu and access them via tiny buttons in the interface.

Data Recovery

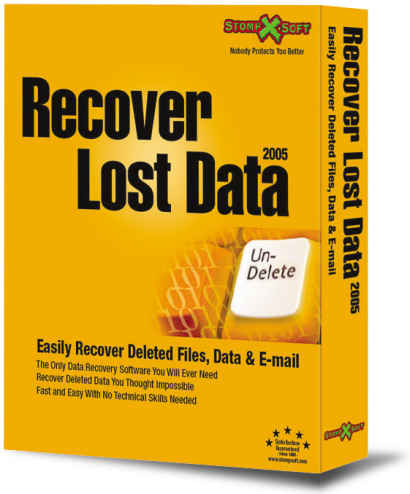
Handy Recovery 3.0. We all make mistakes or experience setbacks; and sooner or later, many users are bound to delete critical data or have it deleted for them through a virus attack. To get back that data, consider using Handy Recovery from SoftLogica ($30; handyrecovery.com). Handy Recovery is a user-friendly program that helps you discover and recover lost files by letting you browse your hard drive just as you would with Windows Explorer—the difference being that you also can *see* deleted files and folders.

Find out what Handy Recovery can do by downloading the free 30-day demo version. The demo will let you experiment with all the application's features, however, it cannot recover more than one file each day.

Recover Lost Data 2.0.3. One of several useful applications from StompSoft (we also recommend that you check out Easy PC Transfer [$39.99] if you regularly need to transfer data from one PC to another), Recover Lost Data ($39.99; www.stompsoft.com) is a consumer-friendly program that—you guessed it—recovers lost data. To do so, it scans your system for missing email messages, family photos, work presentations, and other valuable files through an intuitive wizard. And if you're in distress mode, you can always rely on a friendly voice via free phone support.

StompSoft offers free evaluation versions of the two programs (but in the case of Easy PC Transfer, the demo is limited to 30 days), and although these evaluation versions will let you explore the interface and features of Recover Lost Data and Easy PC Transfer, they won't allow you to actually recover your lost files or transfer your files and settings—unless you purchase the full version to do so.

Recover My Files 3.94. When a file has been accidentally deleted, it's easy to panic, but it's essential to keep your cool when trying to locate it. Recover My Files from GetData ($69.95; www.recovermyfiles.com) helps you do just that. This methodical application scans your hard drive and other media, including Zip disks and memory cards for digital cameras, and lets you preview the files before restoring them.



If you ever find yourself wanting to "undelete" data, consider Recover Lost Data.

Other features include the ability to recover data on formatted hard drives after reinstalling Windows, restoring files after a hard drive crash, and rescuing files after a partitioning error.

To try out the software, download the demo version, which allows you to run the program and learn which files Recover My Files can recover. Then, once you purchase a product activation key, the program will fully recover those files without requiring you to perform a second search.

IsoBuster 1.9. Uh-oh. You know pictures from that once-in-a-lifetime vacation are stored on a CD, but where did they go? IsoBuster from Smart Projects ($25.95; www.isobuster.com) will show you. This CD and DVD data recovery program reads "bad" CDs and DVDs and shows you all the tracks and sessions stored on the discs.

IsoBuster supports all CD/DVD formats and most CD/DVD file systems. Smart Projects also claims that people around the world use IsoBuster to restore everything from three decades of genealogical data to a year's worth of business emails. The program is free to try. The demo contains a Free Functionality button, and if you want to use other features, it prompts you to buy a registered copy. You can register your downloaded copy online, or you can buy a CD for an additional $10. Buying a CD covers CD-creation and shipping costs, but it doesn't cover the program registration.

Take A Few Test Drives

As much as it pains us to say this, we'll admit that sometimes a written description can't fully portray an application's features. We recommend that you visit the Web sites mentioned here and try out the free demos that most of these developers offer. Often a demo is the best way to determine whether a program will meet your needs. And once you have your PC in order, you can get back to the other important tasks on your list, such as calling the dentist for that long-overdue appointment. ■

We recommend that you visit the Web sites mentioned here and try out the **free demos** that most of these developers offer.

BY HEIDI V. ANDERSON

BROWSING ON A BUDGET

Low-Cost & No-Cost Apps That Make Web Surfing A Breeze

Because Windows PCs include Internet Explorer and basic networking functionality, many users don't look beyond those readily available tools when it comes to using their Internet connection. That's a big mistake because there are hundreds of useful shareware and freeware utilities that can enhance your existing Web browser, improve the speed of your network, and optimize the time you spend with your connection. There also are tools that help you subscribe to news feeds, delivering fresh Web content directly to your Desktop—a feat that typically would require visiting dozens of sites.

The problem is that there are so many of these programs and utilities from which to choose, but that's where we can help. Whether you're looking for an alternative to IE, a toolbar that plugs into your existing browser to boost its functionality, a news reader, or a network-optimizing utility, we'll tell you what the best options are in each category. Surprisingly, most of the winners are absolutely free, so there's no reason you can't try a few of these choices yourself.

Alternative Web Browsers

Firefox. Even though Firefox (free; www.mozilla.com/firefox) doesn't have the massive market share that IE enjoys, we want you to know that Firefox is an outstanding alternative browser that's packed with features. In fact, Firefox used tabbed browsing long before Microsoft considered adding that functionality to IE. (For those of you who haven't yet used tabbed browsing, it's a handy way to open multiple Web pages in the same browser window and switch among the pages by clicking tabs assigned to each page.)

Firefox has an incredible number of free add-ons that truly enhance its functionality. For example, take note of the media player controls and weather info at the bottom of the window.

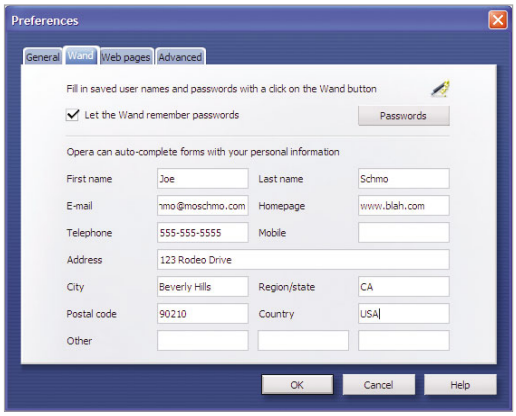
In addition, Firefox is very secure and supports several advanced features, such as extensions and an integrated pop-up ad blocker. **Extensions** are add-ons that integrate directly with Firefox to add new features or to enhance features that already exist, and there are hundreds from which to choose. Some of our favorites include: Forecastfox, which displays current weather conditions in the browser window; FoxyTunes, which lets you control a music player directly from the browser window; and Mouse Gestures, which lets you navigate through pages and close tabs by using mouse movements instead of clicking buttons. You can access extensions by opening the Tools menu, clicking Extensions, and clicking Get More Extensions; you also can update your existing extensions by clicking Find Updates in the Extensions window.

Opera. With Internet Explorer and Firefox available for free for so long, the commercial version of Opera (free; www.opera.com) has long been restricted to a small but growing base of rabid adherents. Now that the full version of the browser is available for free, everyone should give it a shot. Opera is a very stable, feature-packed browser that has the most advanced tabbed-browsing features on the market. It also comes with an integrated pop-up ad blocker.

One great feature that Opera supports is the Wand, which keeps track of all the usernames and passwords you use on various sites and grants one-click logins when you visit those sites. It even stores multiple login

details for the same page, so if there are multiple family members who all have the same Web-based email service, for example, each person can log in to his account quickly by selecting the appropriate Wand entry.

Opera also offers a lot of customization options, and one of the best is the Fit To Window Width setting found in the View menu. Once selected, Web pages will automatically scale to a larger or smaller size to fit the width of the window you currently have open, so you can see everything without having to mess with horizontal scroll bars. If you want to completely customize the browser's appearance, open the Tools menu, click Appearance, and use the tabs to modify nearly every aspect of Opera.



Opera's Wand tool, an autofill feature, makes the process of filling out online forms a snap.

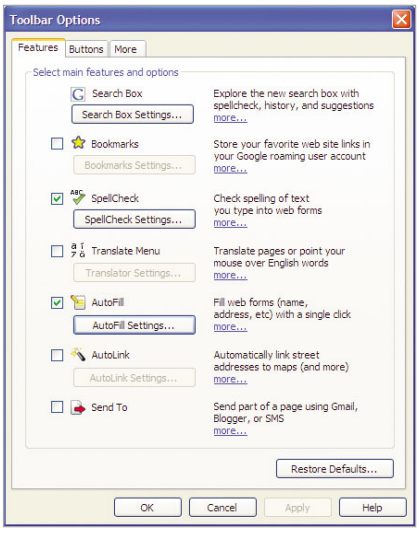
Browser Toolbars

Google Toolbar. Many toolbars simply clutter your Web browser's interface with a multitude of icons that aren't very useful, but the Google Toolbar (free; toolbar.google.com) is a notable exception. It lets you execute Google searches directly from the toolbar and maintains a drop-down list of previous searches that are always just a few clicks away. A pop-up ad blocker is included, as is an invaluable spell checker. The Google Toolbar even makes it easy to translate foreign pages into English (although the technology is still quite crude).

One of the handiest features is AutoFill, which lets you fill in most Web forms with a single click. To set it up, click Settings, click Options, select the AutoFill checkbox, and click AutoFill Settings. Enter all the info and click Add/Edit Credit Card if you want to store that number, as well. When Web pages request a credit card number, you'll have to enter a password before AutoFill supplies it, which adds a nice layer of security without causing any inconvenience when you want to use AutoFill for other types of forms.

Google just released a version of its toolbar for Firefox, so be sure to check it out if you use that browser.

Yahoo! Toolbar. If you use any of Yahoo!'s online services, you might as well install the Yahoo! Toolbar (free; companion.yahoo.com), which provides access to nearly every aspect of your Yahoo! Mail account and alerts you when new messages arrive. Plus, you can use Yahoo!'s extensive photo, video, news, Web, and other search engines, as well as check your Yahoo! Calendar and access practically all of Yahoo!'s other services and major categories directly from the toolbar.



The Google Toolbar is a component that's completely customizable, in addition to offering spell check and translation features.

The default configuration comes with an overwhelming number of buttons, but it's easy to customize things using a handy Web-based interface. Just click the pencil icon next to the search field, expand Personal Options, click Add/Edit Buttons, and deselect the checkboxes next to the various entries you want to eliminate from the toolbar (or select the checkboxes beside any items you want to add), and click Finished to apply the changes. You also can click Change Layout, select an entry, and then click the arrow buttons to change the order in which the selected entry appears on the toolbar.

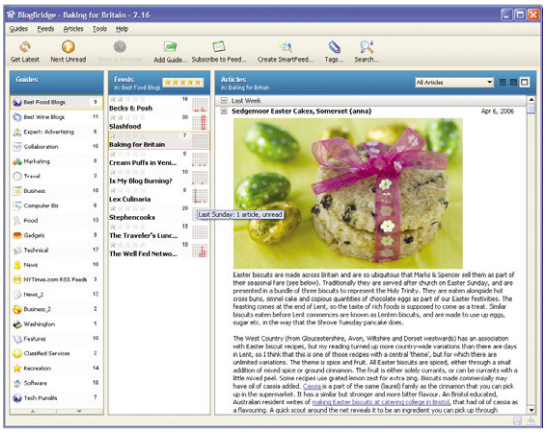
News Feed Programs

BlogBridge. BlogBridge (free; www.blogbridge.com) isn't only free; it's also an open-source application, which means that there's a large community that actively develops and adds new features to the software on an ongoing basis. The software lets you subscribe to nearly any type of news feed and blog, and it comes with a large number of built-in feeds to get you started. Best of all, many of the feeds that come with the software are hand-picked by experts in various categories, so even if you're new to the whole news feed and blogging thing, you don't have to separate the wheat from the chaff yourself.

To subscribe to a new feed, either click the Subscribe To Feed button and manually type the address of the feed you'd like to add or navigate to the feed using your Web browser, find the button you need to click to access the feed, drag the button into the Feeds pane of BlogBridge, and drop it there.

FeedDemon. FeedDemon ($29.95; www.newsgator.com/NGOLProduct.aspx?ProdID=FeedDemon) might cost money, but it's among the most powerful and easy-to-use news feed readers we've tested. The interface is incredibly clean, using one pane to display all of

your subscriptions and another (much larger) pane to display the actual feeds. Use the Content menu to display the entire feed for extensive reading, show shorter excerpts from each entry for a quick overview, or list simple headlines to compress the entire feed into a very small amount of space. Icons let you mark each entry as read, so it won't appear again or flag each entry in order to create a collection of favorite or grouped entries for easy filtering.



BlogBridge collects all of your favorite blogs and news feeds and puts them in one convenient place.

Another bonus is that if you have a NewsGator account (www.newsgator.com), you can easily synchronize your subscriptions at that popular free service with your FeedDemon software. Just enter your NewsGator account info during FeedDemon's installation routine, and the program automatically takes care of everything.

Network & Internet Optimization

CableNut. If you have cable or DSL (Digital Subscriber Line) broadband Internet access, CableNut (free; www.cablenut.com) can make the connection work faster and in a more streamlined manner, but at first glance, the software may seem too intimidating for the uninitiated.

After downloading and installing the apps, double-click the CableNut icon and the Adjuster.exe icon. Don't be scared by all of those empty text boxes because the software comes with several templates that will automatically tweak the connection. Click File, click Open Custom Settings File, double-click the CSS (Cascading Style Sheet) folder, and then double-click the folder that matches up with the type of connection you have. (Choose the 56K option for a dial-up connection.) This displays the various templates, which end in fast_2k.css, fast_9x.css, normal_2k.css, and normal_9x.css. Try out one of the "fast" options, using the one that ends in 9x if you have Windows 95/98/Me or using the one that ends in 2k if you have Windows XP. The suggested values for each entry are then displayed in the Manual Tweak Screen, and you can click Save To Registry and reboot the computer to apply the new settings.

If your connection is unstable or doesn't work after using "fast" settings, perform the same steps we mentioned in the previous paragraph, but this time, select the "normal" template that corresponds to your Internet connection and OS (operating system). Just remember that you always have to reboot the computer to apply the adjusted settings.

TuneUp Utilities. One of the nice things about paying for a tweaking program is that it tends to optimize just about everything. TuneUp Utilities (39.99; www.tune-up.com) is no exception, and it makes it very easy to clean up your Internet connection and adjust nearly every other aspect of Windows to make your entire computer run more efficiently.

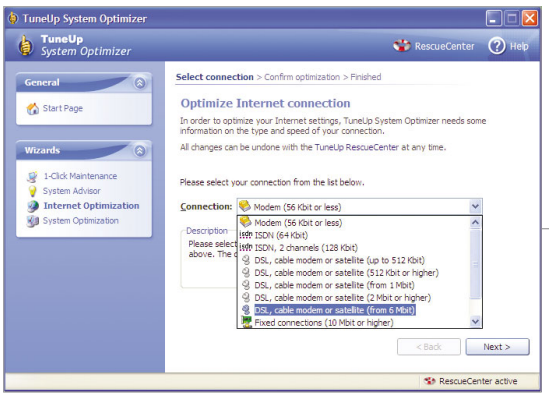
But because we're focusing only on Internet-related software in this article, we'll give you a brief rundown about how to change your online settings using TuneUp Utilities. Launch the software, click the Optimize & Improve entry on the left, and then click TuneUp System Optimizer. Next, click Internet Optimization in the Wizards box on the left and then use the Connection drop-down menu to select the type of Internet connection you use. (Dial-up modems are supported, so don't feel left out if you still use one of these.) You may need to check with your ISP (Internet service provider) to see what the maximum speed of your broadband connection is because the software makes different adjustments for a wide variety of speed ranges.

Click Next, wait for the program to determine which settings will work best, and click Next again. Reboot the computer if TuneUp Utilities tells you to or simply click Finish if it doesn't, and your connection should run as efficiently as possible.

Safety First

These tools are just one half of the equation when it comes to accessing the Internet. The other, more important half is securing your connection, so be sure to check out our recommendations for shareware and freeware that can handle that portion of the job in the "Security On Sale" article on page 52. ▮

BY TRACY BAKER



When using TuneUp Utilities, be sure to choose the connection speed that comes closest to the speed of your Internet connection.

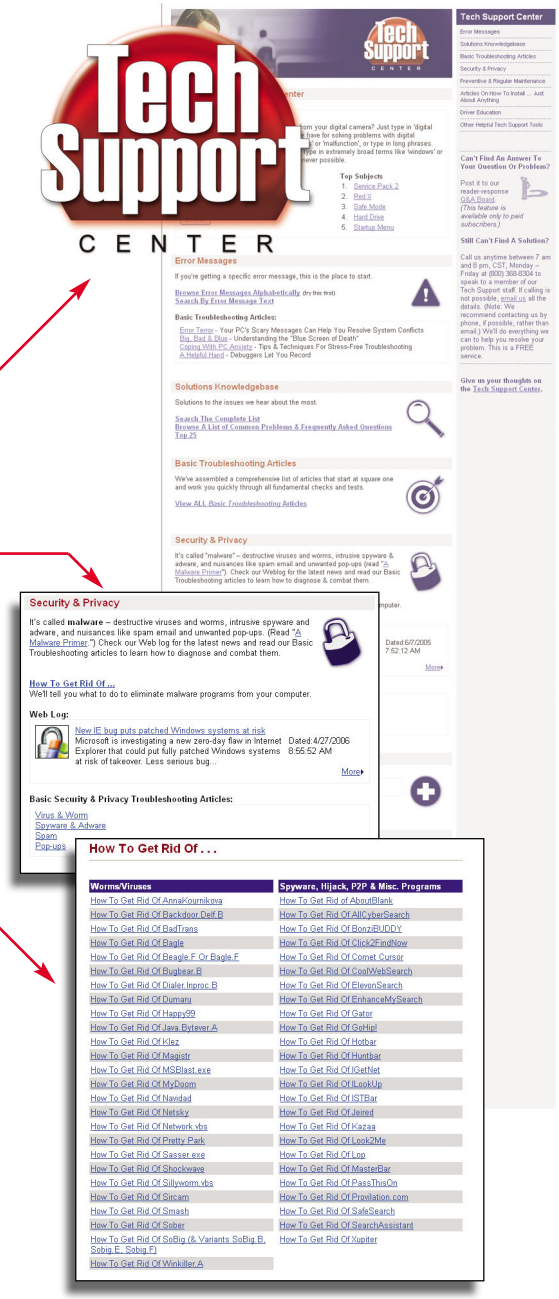
How To Get Rid Of . . .

You didn't mean to, but somehow you managed to download malware onto your system. It can happen to anyone, but how do you get rid of it? If your computer has ever been infected with a pesky worm, virus, or other malicious intruder that you didn't know what to do about, check out our How To Get Rid Of articles in the SmartComputing.com Tech Support Center. You'll find numerous articles on how to remove worms and viruses from your system, as well as spyware, adware, and other nuisances.

Log in to SmartComputing.com. Click the Tech Support Center link on the home page.

Once in the Tech Support Center, scroll down to the Security & Privacy section. Click the How To Get Rid Of . . . link.

Click the link for the item you are trying to remove. You will then be taken to a full article that provides a description of the item and tells you how to tell if it's on your PC and how to eliminate it. Some articles provide helpful links to outside sources (Symantec, Microsoft, etc.) that can provide additional information on solving your problem. Check out these helpful articles today!



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www.smartcomputing.com The ultimate computing resource.

Safe Keeping

Learn To Back Up Your Email

Email used to be a forum largely for casual conversation and funny stories. Today, we use email for a much wider array of tasks, such as scheduling meetings, exchanging business contracts, and making travel plans. Think for a moment about all of the information stored in your email: addresses, phone numbers, important documents, photos, and more. Now, consider for a moment how catastrophic it would be if this information were to vanish.

If you regularly back up your email, you will likely never need to worry about such a situation. While it can be easy to forget or put off backing up your computer and email messages, all computer users should make it a priority. To help ease the backup process, we've taken a closer look at the steps required for a variety of popular programs.

Before we can begin, you must understand that there are two ways to retrieve email messages: You can access your messages using an e-mail program installed on your computer or using a Web site specific to your email provider. As with any backup, you should save the files to removable storage such as a CD for safekeeping.

Email Programs

There are many email programs available. So many, in fact, that we can't cover all of them in this article. Still, we will look at the steps required to back up email from three popular programs.

AOL. AOL software installed on your computer provides easy access to your AOL mail. Even though you're using the AOL program on your computer, your messages reside on AOL servers. As a result, you can access your AOL mail from the AOL program or from AOL's Web site. AOL automatically deletes messages stored on their servers after a limited amount of time. (Documentation in AOL's Help files is ambiguous as to how long this period of time is.) This makes regular backups especially important to ensure you'll have a copy of your messages when you need them.

All new, unread emails are delivered to your New Mail folder in AOL 9.0 Security Edition. They will stay in this folder for a limited time. After you read a message, it is transferred to the Old Mail folder where it will stay for a limited time. These folders reside on AOL's servers. Once time expires, AOL deletes your messages.

In addition to automatically removing messages after a period of time, AOL limits the amount of your email storage space. For long-term storage, move messages from AOL's servers to your personal computer. AOL uses a folder called Saved On My PC to store permanent copies of the messages you elect to save. This folder is also known as a Personal Filing Cabinet, and it resides on your computer.

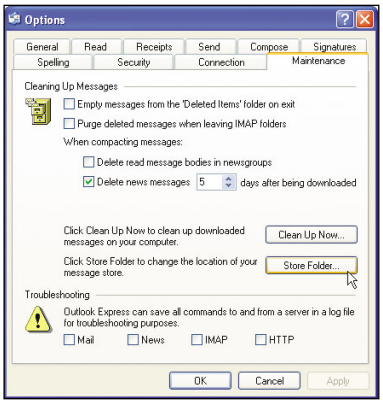
Because the Personal Filing Cabinet contains the AOL messages you've elected to keep, this is the file you'll need to back up. To back up your Personal Filing Cabinet, navigate to C:\DOCUMENTS AND SETTINGS\ALL USERS\APPLICATION DATA\AOL\C_AMERICA ONLINE 9.0. Look for a folder called Organize and copy this entire folder to your backup media such as a CD or flash drive.

In the event you need to restore your backup, copy this Organize folder and its contents to the C:\DOCUMENTS AND SETTINGS\ALL USERS\APPLICATION DATA\AOL\C_AMERICA ONLINE 9.0 location.

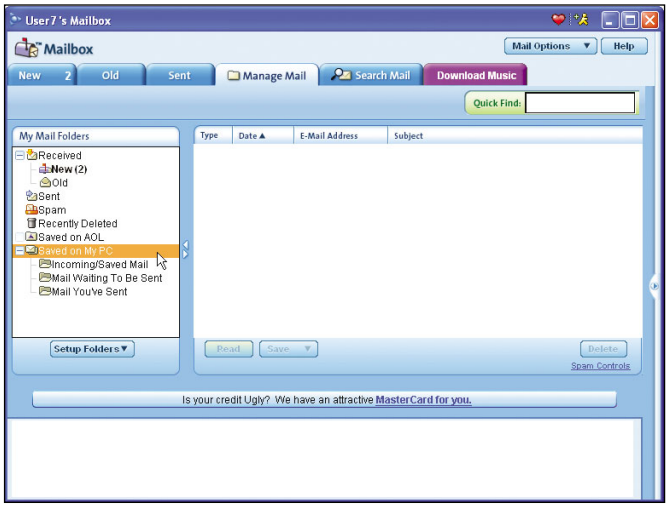
Outlook. Microsoft Outlook stores not only your email messages, but also your calendar, tasks, and notes in a single file called a PST (Personal Folders) file. To back up your information in Outlook, download and run the Personal Folders Backup (free; www.microsoft.com/downloads and search for Pfbackup.exe) add-in from Microsoft.

This add-in gives you the ability to back up your email and other items

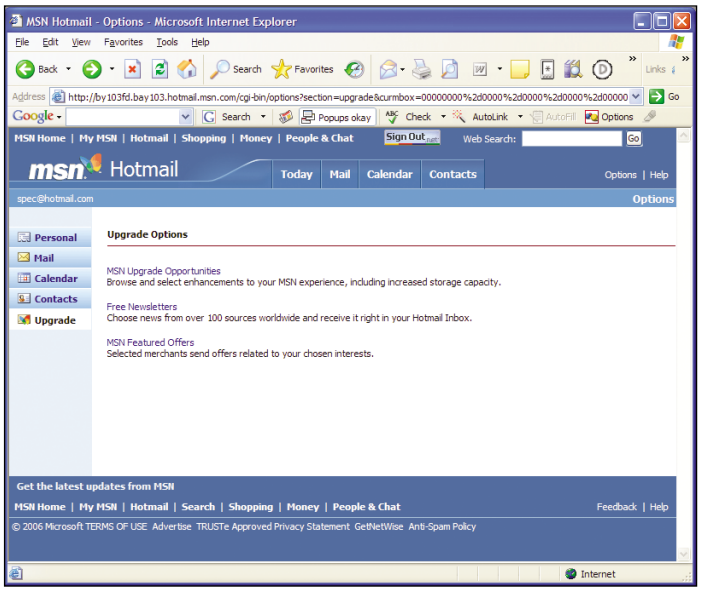
Use the free Personal Folders Backup add-in for Microsoft Outlook to make quick work of saving your email and other Outlook data.



The Store Folder in Outlook Express contains all of your email folders and messages.



AOL's Saved On My PC folder contains the messages you've stored on your computer.



You can upgrade a standard Hotmail account using the Upgrade tab of the Options menu.

at regular intervals. If you have multiple PST files on your computer, the Personal Folders Backup program lets you schedule these files for backup, as well.

After downloading and installing this add-in, start Outlook, navigate to the File menu, and select Backup. Once the Personal Folders Backup add-in begins, follow the on-screen menus to select which PST files to back up.

In the event you need to restore your messages and other information from your PST file, open Outlook and navigate to the File menu. Here, select Open and choose Outlook Data File. Next, navigate to your saved PST file and click OK.

Outlook Express. Although Microsoft doesn't provide a backup utility for Outlook Express like it does for Outlook, it's easy to back up your messages. First, open Outlook Express and navigate to the Tools menu. Select Options and then click the Maintenance tab. Next, click the Store Folder button and highlight the folder location. Press CTRL-C to copy this location to your Clipboard. Click Cancel and then click Cancel again to close the dialog boxes. After this, click Start and then click Run. In the Open box, press CRTL-V to paste the location and then click OK. You should see a listing of all DBX (files associated with Outlook Express) files associated with your Outlook Express messages. Copy all of these DBX files to removable media for safe keeping.

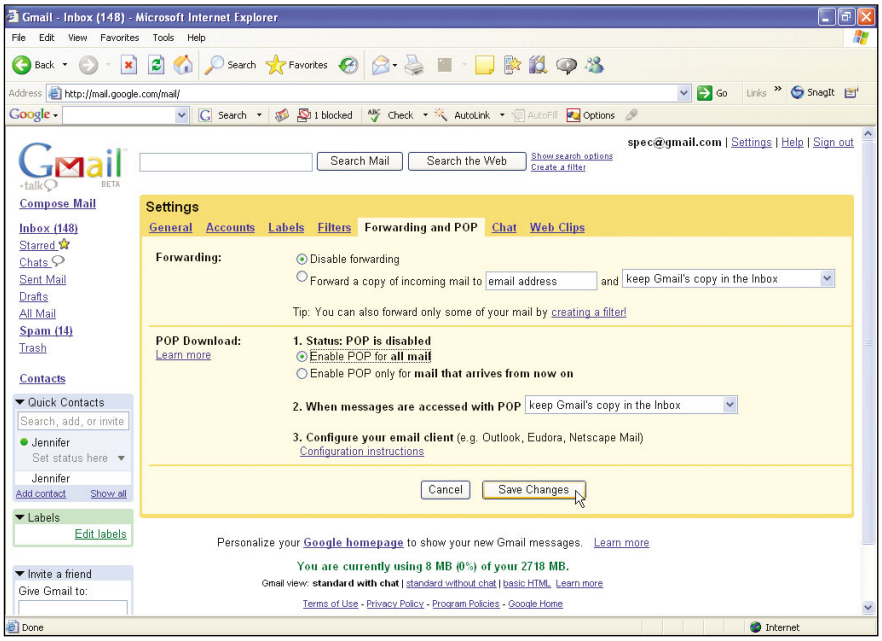
Should you need to restore your messages, open Outlook Express and select Import from the File menu. Then, click the Messages option and choose your version of Outlook Express from the menu. Next, proceed through the remaining Import screens, including the screen that gives you the option to import all folders or a selection of folders you choose.

Web Mail Backup Options

Web-based email offers a variety of features, including the ability to access your email at any time from an Internet-connected computer. However, because Web mail programs store your messages on their servers, it can be difficult to back up your email. Although you can save an individual email message using the Save As command in Internet Explorer or another Web browser, this is an ineffective method for backing up large numbers of emails.

For most Web-based email providers, including the three we'll consider (Gmail, Hotmail, and Yahoo! Mail), you'll need to forward or download your messages to a program such as Outlook Express and follow the instructions for backing up messages from this program.

Gmail. Of the three Web-based email services we cover in this article,



Gmail gives you the option to forward or enable POP downloading of your messages.

Gmail is the only service to offer free mail forwarding for a basic account without the need for separate software. With Gmail, you can use the POP (Post Office Protocol) forwarding option or the POP download option.

POP forwarding will redirect your messages to an email account of your choosing. To use this option, log in to your Gmail account and click the Settings link. Next, click the Forwarding And POP tab. Select the radio button next to Forward A Copy Of Incoming Mail To and enter a destination email address. You'll then have the option to choose whether you want to keep, archive, or delete messages on the Gmail server after forwarding.

If you receive a lot of spam, you can filter the messages before forwarding and delete those messages that don't meet certain criteria. To complete the setup, click Save Changes on the Forwarding And POP tab.

As an alternative to POP forwarding, you can also choose to download your messages to your local machine using the POP download option. After navigating to the Forwarding And POP tab, select Enable POP For All Mail. You'll then need to decide if you want Gmail to keep, delete, or archive messages after downloading them from Gmail. Finally, click Save Changes to complete the setup. If you need instructions for setting up your email program to work with POP download, click Configuration Instructions.

MSN Hotmail. Microsoft's MSN Hotmail service lets you back up your email messages only if you pay for its MSN Hotmail Plus service (join.msn.com/hotmailplus/overview-std), which costs $19.95 per year. If you'd rather not spend money to gain the additional features of Plus, consider using a third-party program to forward messages to an email address of your choosing. GetMail For Hotmail (free; www.e-eeasy.com/GetMail.aspx) has a simple interface and gives you the ability to automatically forward messages to another email account.

Another program, WebMail Assistant ($39.99; www.oneseek.com), forwards your Hotmail messages to a specified email account and has mail merge and spam filtering functions. In addition, WebMail Assistant works with both Hotmail and Yahoo! Mail.

However, because both of these forwarding options involve redirecting your messages to a separate email account and then backing up the messages from a program such as Outlook Express, you won't be able to restore your messages to the Hotmail servers. Instead, you can restore your saved messages to the program you used to create the backup, such as Outlook Express.

Yahoo! Mail. Like Hotmail, Yahoo! Mail doesn't provide an easy way to back up all of your messages using the free version of the service. Yahoo! Mail Plus (mailplus.mail.yahoo.com) accounts with backup functionality cost $19.99 per year. Like Hotmail, you can download a free program that will forward your messages to your PC. One such program is YPOPs! (free; www.ypopsemail.com). Alternatively, you can purchase a program such as WebMail Assistant that will provide features beyond a traditional email backup utility. Like Hotmail, because you are forwarding your messages to a separate email account for backing up with a separate program, you won't be able to restore the saved messages to the Yahoo! Mail servers.

Rest Easy

Although backing up a Web-based email account may require a few more steps than with a standalone program, it's worth the time to ensure you have a safe copy of your messages. Once you've backed up your email messages, you can relax, knowing that if something should happen, you have a copy of your important messages. Keep in mind, however, that you should continue to back up your messages on a regular basis to minimize the number of messages you will lose should something go wrong. ❚❚

BY JENNIFER JOHNSON

Sandhills Publishing

Technology For Your Life.

FirstGlimpse™

Each issue of *First Glimpse* covers the latest consumer electronics you'll find in stores and online. *First Glimpse* tells you what to get and where, and most importantly, we show you how to use these devices to fit your lifestyle.

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Quick Studies
How-To

Word Processing

Beginner

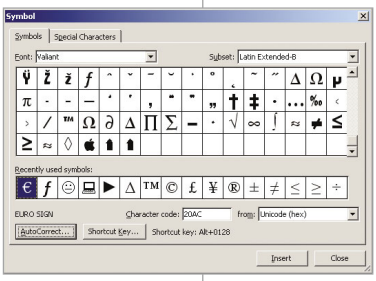
2002 for Win9x/NT 4.0/2000/Me/XP

Microsoft Word 2002

Put Special Characters To Use

You may find your standard computer keyboard comes up short when you want to place symbols or special characters in a document. For example, you may need to place text from a non-English language, a mathematical operator, a currency symbol, or a geometric shape. Microsoft Word 2002 gives you the ability to place symbols or special characters that are unavailable on the standard keyboard. We will use the term "special characters" to refer to both symbols and special characters in this column.

Each font has its own set of these special characters. Also, the Wingdings font, free from Microsoft and included with Word by default, is made up entirely of a wide variety of decorative symbols.



The Symbol dialog box provides access to special characters in all of the installed font types.

Special characters are useful when you have to, for example, place the euro (€) symbol, but it can also be used as a simple way to insert a design element. Columns like this one that contain subheads often employ decorative symbols to set off each one, for example:

▶ This subhead is marked by an arrow.

Special characters can also be used as slugs to mark the end of an article, such as this.

Start At Symbol Dialog Box

Insert a special character by positioning the cursor in the text where you want the character to appear. Click Insert and Symbol to open the Symbol dialog box. Click the character you want to use and click Insert.

There are two tabs in the Symbol dialog box: Symbols and Special Characters. Click the Special Characters tab. These characters are mostly of a typographical nature, such as an em dash (—) or a paragraph symbol (¶). Many of the characters have keyboard shortcuts, which are listed in the dialog box.

Click the Symbols tab in the Symbol dialog box. Choose a font from the Font drop-down box and a Subset from the drop-down menu. The set of all available symbols appears in the center area. You may have to look through several fonts to find the symbol you want. Below the set of all available symbols is a strip of recently used symbols.

A description of the symbol is given below the strip, which is valuable because the symbol's meaning is often not readily apparent. However, sometimes the description isn't much help, either.

The Character Code and From blanks go together and are used when you know the code number and the standard you want to use. The standards, available in the From drop-down menu, are Unicode and ASCII.

The ASCII (American Standard Code for Information Interchange) standard is ancient history in typography. ASCII has only 255 characters in its standard, but there's nothing wrong with using ASCII character codes if you learned them along the way.

Unicode is a much more advanced standard and continues to grow in the number of languages it supports through the efforts of the Unicode Consortium. Unicode has been adopted as the official standard by all the leading information technology enterprises, such as Apple, HP, IBM, Microsoft, Oracle, SAP, Sun, and many others. As with ASCII, if the know the Unicode character code, you can enter it in the Character Code box to go directly to the character you want.

Insert Characters Quickly

Select the character you want to use in the Symbol dialog box and click Shortcut Key. The Customize Keyboard dialog box opens with the symbol displayed. Place the cursor in the Press New Shortcut Key box and press the key combination you want to use for the shortcut. Click Assign. The key combination shows in the Current Keys box. Click Close. If you want to delete the shortcut, open the Customize Keyboard dialog box, select the shortcut, and click Remove.

You can also use AutoCorrect to replace typed text with a symbol you designate so that you don't need to open the Symbol dialog box each time. You can automatically have Word replace the word "euro" with the symbol for the currency as you type. Click Insert and Symbol and locate and click the euro (€) symbol. Click AutoCorrect. The euro symbol appears in the With box. Type **euro** in the Replace box and click Add and OK. Now whenever you type the word "euro," the symbol appears.

Special characters are easy to work with. Get to know these processes, especially if you need to use them often.

BY TOM HANCOCK

Quick Studies
How-To

Image Processing

Beginner

9 for Win98SE/Me/2000/XP

Corel Paint Shop Pro 9

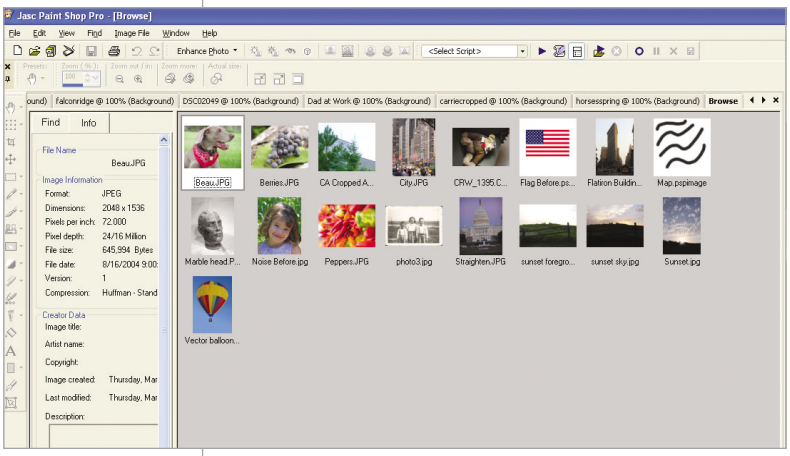
Making The Transition From Version 8 To 9

We're upgrading our coverage of Paint Shop Pro from version 8 to 9, so here's an overview of some of the new features that we'll be delving into during the upcoming months.

Interface Enhancements

When you begin using Paint Shop Pro 9's palettes, the upgrades become obvious. For example, the Materials palette includes a Frame tab, which lets you choose colors with the help of hue and saturation rectangles, and the History palette lists the 250 most recent commands applied to an active image. You'll also have more control over how palettes display, such as setting them to slide open and close via a tab.

Menu commands have changed slightly, as well. No longer will you have to search for the Color Balance, Contrast Enhancement, and Saturation commands because they're now standalone items. Plus, the One Step Photo Fix is featured in the Adjust menu rather than being hidden under a toolbar button, and it's accompanied by the Photo Fix tool, which carries commonly used correction tools. Also, when you're working with multiple images, you can display them in tabs across the top of the workspace and use intuitive forward and backward buttons to move among these images.



Paint Shop Pro 9's interface enhancements include tabbed browsing of multiple images and an Info tab for the Image Browser.

Along with a new look, the software includes some fun new tools and makes improvements to familiar tools. One of our favorites is the novel set of Art Media tools, which let you use your PC to create artwork that resembles more traditional art, such as drawings created with chalk or an oil brush.

The vector drawing, text, and cropping tools are cutting edge (pun intended!), too. The Crop tool, for instance, lets you shade the area outside the box and eliminate it completely. The Text tool lets you place text vertically or horizontally, and it prints cleaner text at smaller font sizes. But it's the vector drawing tools that contain the most updates. For example, the Preset Shapes tool has more arrows, flowers, gears, and other shapes, and you can create buttons and banners more easily with the new Rectangle, Ellipse, and Symmetric Shape tools.

New Filters & Effects

And when you need Paint Shop Pro to perform some "serious" work, such as correcting problems in your digital photos, that's where four new filters come to the rescue. The Digital Camera Noise Removal filter scrutinizes your pictures and removes image noise automatically. The Chromatic Aberration Removal filter is a long name for a tool that makes short work of the colored glow that can appear in digital photos. The Fill Flash filter is a one-step correction tool for fixing underexposed or shadowy areas in a photo. And the latter filter is complemented by the Backlighting filter, which fixes overexposed areas around a photo's subject.

Although filters can fix photos, we recommend that you check out two new effects if you want to add some levity to your photos. Use Displacement Map to create two-dimensional or three-dimensional effects, or use Radial Blur to add spin, twist, or zoom effects.

Miscellaneous Upgrades

In the past, after you've transferred your files from a camera to your PC, you've probably used Paint Shop Pro's browser, which lets you view, open, and otherwise manage files. In version 9, the Image Browser has two tabs: Find and Info. The Find tab provides a view that's similar to the view a user had available in version 8, but the Info tab adds a lot of information about each image, including its file format, dimensions, and pixel depth.

And when you're ready to print an image, you can use the Print Layout feature to add captions or titles to printed pages.

BY HEIDI V. ANDERSON

Quick Studies
Problem Solver

Microsoft Excel 2002

Finding Lost Information

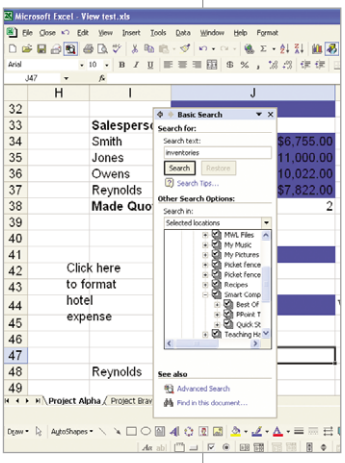
Spreadsheet

Intermediate

2002 for Win9x/NT 4.0/2000/XP

Despite living in a world with Google, MapQuest, and little clips designed to hold socks together in the wash, we still lose stuff. Whether we're talking about our data or more tangible possessions, it all keeps wandering off into ever-changing nooks and crannies of our lives. Excel is a prime hiding place for all kinds of stuff we'd like to keep at our fingertips. Sometimes it's an important stat we can't find in a large worksheet; sometimes, the worksheet itself goes AWOL on a hard drive.

Whenever you lose track of anything in Excel, suppress your panic and consult the following tips.



Whether you've misplaced a number in a workbook or an entire file on your hard drive, Excel's Search (pictured) and Find tools will help you track it all down.

Find Data In Workbooks

Let's start with the basics: You know that somewhere in your vast worksheet of customer information are the records for an old client, Mr. Wonderful, but you can't remember exactly how you organized everything. Furthermore, scrolling through hundreds of columns and rows doesn't sound appealing. Find the information quickly by choosing Edit and Find to reveal the Find And Replace dialog box.

In the Find What box, enter the text string you're looking for, such as **Mr. Wonderful**, and then click Find All. Excel moves the worksheet view to the first cell with the phrase in it and highlights the cell. Also, the Find And Replace dialog box produces a little window that lists every occurrence of the search text in the worksheet, along with the cell address where each one appears. Click an occurrence on the list to jump to that cell.

This tool also works with numerical data. Let's say you can't find the information for the widgets that have serial number THX1138. You can use the Find tool to search for that string just as you'd look for text.

What if you'd like to find all the items in the THX product line with one search—or can't remember whether you organized information as Quarterly Reports or Quarterly Updates? In both cases, wildcard characters are the key. Searching for "THX*" produces any cells with a phrase starting with those three characters. A search for "Quarterly*" would turn up either example above.

Those simple searches will solve a lot of your missing-information problems, but such basic lookups barely begin to demonstrate how finely the Find tool can sift information. Click the Options button to get serious about searching. Here you can specify that the search cover just the active worksheet or the entire workbook. You can set the search to find only text matching the case of your search term, to look in comments, as well as formulas, and more. You even can click the Format button and tailor the search for something such as cells formatted to show numbers with three decimal places. And don't forget the Find feature's longtime partner: Replace. With that tab, you can swap out every instance of specified data with something else.

Find Data Anywhere

Now let's say you can't even remember which file on your hard drive has Mr. Wonderful's information in it. Unbeknownst to many Excel users, the program includes a tool for seeking that phrase in any part of your hard drive (or network) you specify. Choose File and Search. In the Basic Search task pane, you can send Excel looking in any drives or folders for the magic phrase or number. Enter the text you're looking for in the Search Text box. The program is smart enough to look for common variations of words. So if you enter inventory, it will also turn up words such as inventories.

To specify where the search takes place, click the drop-down arrow for the Search In box and then click the plus (+) and minus (-) signs to expand and collapse folder views. Click the boxes next to the ones you want Excel to search. To speed up the search, click the drop-down arrow for the Results Should Be box and click the appropriate boxes to limit the results to Excel files only.

If you've never tried this tool, it's worth a look. It can be a tremendous time-saver compared to looking through files for a piece of information.

Sometimes, you may be trying to open a file by choosing File and Open, only to find that you can't locate the file in your folders. You can search the hard drive right from this window by clicking the Tools button in the upper-right corner and then Search.

BY TREVOR MEERS

Quick Studies
How-To

Browsers

Internet Explorer Beta Adds Tabs To Interface

Internet Explorer 7 (Beta)

Intermediate

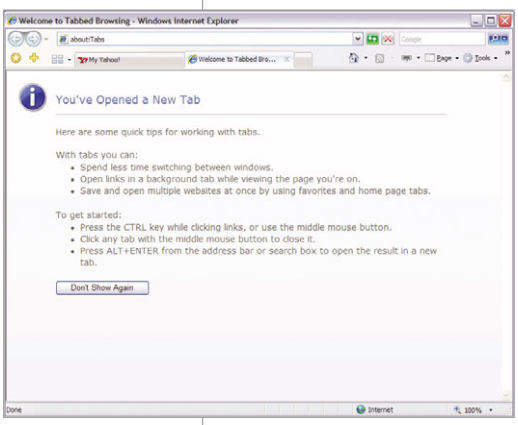
It's a long time in coming, but tabbed browsing is making its way into the standard Internet Explorer interface. IE7, in beta as of this writing, takes on tabs and does a good job of integrating this feature. IE wasn't the first browser to introduce tabs, but as the most recent browser to do so, Microsoft incorporates the latest in tab options.

Tabs don't sound like much, but they can become fairly addictive. Rather than sort through multiple windows that continue to clutter your Desktop, tab-centric browsers can track several Web pages—all within the same screen.

For example, you might want to keep your Web-based email page and your favorite news site open as you visit a few other random pages for browsing your interest du jour. A row of tabs—one for each open Web page—keeps everything in line. Click the tab of the page you want to see, and when you finish, click another tab.

Run A Tab

When you first open IE7, the title of the page displayed in the window appears in a rounded tab just below the toolbar. To open a new blank tab, click the smaller tab on the right edge of the last tab. Click a Favorite or type a URL into the Address bar to load the page you want associated with the blank tab. Each tab has its own close button in the upper-right corner, although you need to select a tab before it will appear. Or you can right-click a tab and choose Close from the menu that appears. (By the way, that menu also includes a command to close all of the tabs other than the one you clicked.)



Internet Explorer 7, now available in beta, adds tabbed browsing to IE's list of features.

You can open a link directly into a new tab by pressing CTRL at the same time you click the link. For a mouse-only method, right-click a link and choose Open In A New Tab. The new tab opens in the background, so it doesn't block your view. You might open a batch of tabs, for instance, from the front page of a newspaper site and then look through them later after you've selected everything you want to read.

If your row of tabs starts to get out of control, IE7 throws in a button that's designed to help. The Quick Tabs button, which appears on the left side of the tab row when more than one tab is open, actually works in two ways.

First, you can click the small arrow (pointing downward) next to the button to see a list of page titles for all the open tabs. Select an item from the list to make that tab active.

Second—and a more interesting option—is the button itself, which looks like four squares. Click the button to see the browser window display thumbnails of every open tab, so you can get a quick idea of what they all look like. This option is a great help if you have more tabs open than you know what to do with.

From the Quick Tabs window, click a tab or close unwanted tabs by clicking the X in the upper-right corner of each picture. Right-click a thumbnail to access a couple more commands, including Close Other Tabs and Refresh; the latter updates the tab's thumbnail with a new, up-to-the-minute capture of the Web site in question.

Home Tab

The addition of tabbed browsing opens up several opportunities for other aspects of IE7. For example, home pages can now become home collections of multiple pages that automatically open (all at once) when you click the Home button. To save a set of tabs as your home page collection, first open the tabs you want to designate, click the small arrow next to the Home button, and choose Change Home Page. When you see a small dialog box appear with three options, decide if you want to set your home page to only the active tab, add the active tab to your set of home page tabs, or use the entire set of open tabs as your home page. Click OK.

Overall, we found the IE7 beta a bit more crash-prone than we're used to, even for beta software. This situation may have improved by the time you read this, but as of today, the new software is more suitable for merely experimenting with tabs and other features than it is for reliable browsing.

BY ALAN PHELPS

Quick Studies
How-To

Online

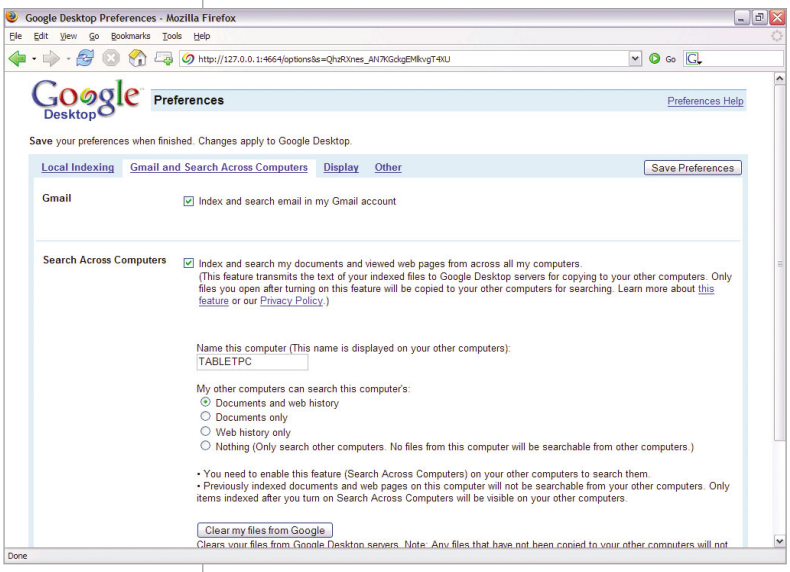
Search Your Personal Files From Anywhere

Google Desktop 3

Intermediate

The third version of Google's Desktop program (www.google.com/desktop) not only lets you search personal files on the PC in front of you, but it also lets you search files on your other computers—regardless of where the computers may be. Once Desktop Search is installed and running on all of your machines, searching for files is simple; just launch your browser and run a search from the main Google page. If you pick search terms you know appear in your personal files on your computer(s), and assuming you've allowed enough time for your files to be indexed, Google's search results should include links to your personal files.

If you'd rather not see your documents appear automatically among the regular search results, you can deactivate that feature. Click the Desktop link above the Google search field and click the small Desktop Preferences link next to the Search button. Next, click Display, scroll to the page's bottom, remove the check mark from the Google Integration option, and click Save Preferences. From here on out, you'll need to click Desktop near the search field to get search results from your computer(s).



Google Desktop 3 rolls out a new (and controversial) feature: searching for personal files across multiple computers.

There are two key limitations to keep in mind. First, to search the files contained on your other PCs, you must make sure those computers have Google Desktop installed with your user ID and password entered and the Search Across Computers preference enabled on each one. Second, documents already indexed on a PC won't be included in searches on other PCs; thus, only the new files indexed after you activate Search Across Computers will be visible to Google Desktop on the other machines. What's nice—and a tad bit worrisome to some users—is that Google's ability to search across computers works even when your other PCs are turned off or are otherwise inaccessible. That's right: You can still see search results from powered-down PCs, and you can even look at text versions (at the very least) of those files.

This ability exists because Google keeps a copy of the index and cache from each machine on its servers. The idea that Google keeps copies of your files on its own computers understandably makes privacy-conscious folks a little squeamish. From a practical standpoint, it's highly unlikely anything bad will happen; in theory, though, no one can know that for sure. Much more likely than Google compromising your data is a scenario in which someone using one of your inter-Googled PCs runs searches that present your sensitive files. After all, it's pretty easy for just about anything to turn up in a list of search results, even if some other user of one of your PCs isn't actively looking for it. Google attempts to head off any serious problems by not indexing HTTPS (Hypertext Transfer Protocol, Secure) pages, which often include online banking sites. Even though your PC guests may not be able to sign in to your checking account, an active Google Desktop can allow them to see what pages you've been browsing online.

Hide Or Seek

To activate or deactivate the Search Across Computers function, right-click the Google Desktop logo, choose Preferences, click Gmail And Search Across Computers, and remove the Search Across Computers check mark. After doing so, Google Desktop will continue to function as a standalone search app for finding files on each PC, but it will no longer make those files available to other PCs.

Rather than blocking all Google searches across your various computers, you also can set particular PCs to allow only certain categories of data to be searched from the Search Across Computers tab of the Preferences page. Wherever you ultimately determine your comfort level falls with Google Desktop, it's at least worth a bit of tinkering.

BY ALAN PHELPS

Quick Studies
How-To

Desktop Publishing

Advanced

20 for Windows 98/Me/2000/XP

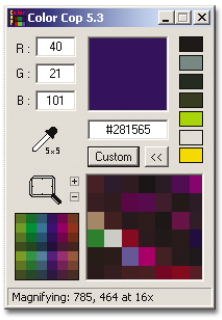
Broderbund Print Shop Deluxe 20

Match Colors To Unify Design

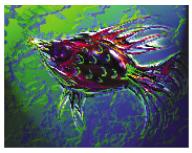
Sometimes you may find a piece of clip art in the Print Shop 20 Deluxe Art Gallery that you would like to use in a project, but its colors clash with graphics you already placed. In this case, it would be good to change at least some of the colors in the clip art to match the other graphics, thereby creating a more unified design. Print Shop doesn't have a function that does this directly, but there are a few tricks you can use to achieve the effect.

We will be using Print Shop's Art Gallery, the Advanced Drawing tool, and a freeware utility called Color Cop in this article. We will use the term "graphic" to refer to the main image in the project.

There are two approaches to take, depending on whether the graphic you are trying to match the clip art to has a simple, solid fill or is a combination of colors.



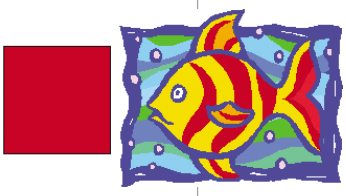
The Color Cop application is useful when you want to isolate colors that make up a complex graphic.



Solid Fills Are Easiest

Create an empty project on the Design Desk. Now we will draw a simple shape to stand in for a graphic that you might use in a real project. Click Drawing Tools and choose Insert Shape.

Choose a shape and fill it with a color by clicking the Fill Color bar. Do not use a blend or texture with the fill. You can choose a color in the first palette, click More to bring up another palette or click Define Custom Colors for the most complete choices. Whichever way you choose, you will need to bring up the Color palette by clicking Define Custom Color. We are interested in the numbers in the Red, Green, and Blue boxes at the lower right of the box. Note these values on a piece of paper.



The color of the stripes on the fish exactly match the color of the rectangle.

Click OK until you are back at the Design Desk, where you should now have the stand-in graphic. Open the Art Gallery and choose the clip art you want to use from the Computer CGM (Graphics Metafile) or WMF (Windows Meta File) sections. Right-click the graphic and click Copy. Close the Art Gallery.

Click Drawing Tools and Advanced Drawing. Click Edit and Paste, and the clip art will appear on the workspace. Decide which object or objects in the clip art you want to match to the color of the stand-in graphic you just placed and click it. Hold down the SHIFT key and click your mouse to make multiple selections. You can also make multiple selections automatically by selecting an object and clicking Select and Similar. Deselect every box except Fill and Color and then click OK. All other objects in the clip art that are of the same color will be selected.

Click the rainbow button at the bottom of the Advanced Drawing window. The Color palette will appear. Enter the RGB values you wrote down and click OK. The selected objects in the clip art will now have the same color of the graphic on the Design Desk. Save the clip art and close Advanced Drawing. Later, you can place the clip art on the Design Desk by clicking Insert and Import and locating the image.

Multicolored Sources

Matching colors when the graphic has a solid fill is straightforward, but what if the graphic is a painting or photo and has multiple colors? This is where the Color Cop application comes in. The free program, created by Jay Prall, is available from www.prall.net/tools/colorcop. Color Cop has many useful features, but we are interested in the Magnifier.

Place the graphic you want to use on the Design Desk and start Color Cop. Click the plus sign (+) next to the magnifying glass symbol until the maximum magnification of 16X is achieved.

Click and drag the magnifier over the graphic. The colors that make up the magnified section appear in the lower right of the Color Cop application as pixels. Release the mouse button when you find a set of colors that you think will look appropriate as part of the clip art you are going to use.

Click the pixel whose color you want to use, and the RGB values will appear in the upper left of the application. Write down the values and proceed as you did above by opening the clip art in Advanced Drawing, selecting the objects in it you want to change, and applying the RGB values.

It would be great if we were all artistic geniuses, but matching colors across graphics the way we have described at least contributes to a unified look. ■

BY TOM HANCOCK

Quick Studies
How-To

Presentation

Advanced

2002 for Win9x/Me/NT 4.0/2000/XP

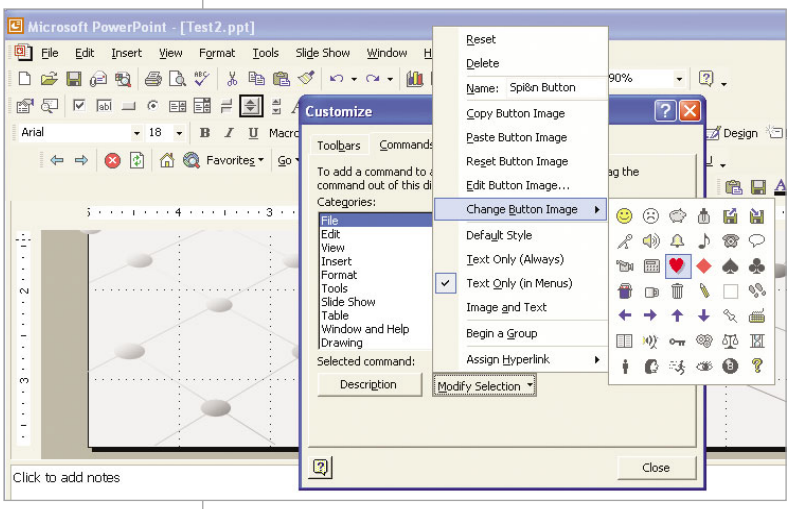
Microsoft PowerPoint 2002

Customizing Buttons

It doesn't take much PowerPoint experience before you realize buttons are one of the most reliable ways of working with the program. A click of the correct button provides access to functions that might otherwise be two or three layers deep in menus. Take a few minutes to learn how you can tailor buttons to your work style.

Move Buttons

PowerPoint's designers may know a lot about how people use software, but the programmers don't have divine inspiration about where to put everything. So if you think the spell check button would really make more sense if it lived beside the Save button, you can move it there. Hold down the ALT key as you click the button, drag it to a new spot, and drop it there. If you'd like a button available in multiple locations, copy it to additional toolbars. Hold down the ALT and CTRL keys as you click the button and then drop the copy in its second home.



Have PowerPoint buttons your way by rearranging them, eliminating those you don't use, or even changing the graphic that appears on the buttons.

When you rearrange buttons, you may find it useful to arrange them inside some of those faint little lines. Choose Tools and Customize. While the Customize dialog box is open, right-click a button and choose Begin A Group. The line appears to the left of the selected button.

Delete Buttons

When you're in a housekeeping mood, it may be time to get rid of a few of those buttons you never touch. You can send them to sleep with the fishes just by dragging them off the toolbar when the Customize dialog box is open.

Create Buttons On A Custom Toolbar

Everyone has a handful of buttons they use most often. Maybe you'd like to put them all together in a single toolbar with a clever name such as My Favorite Buttons. Choose Tools and Customize, and on the Toolbars tab, click New. Enter a name for your toolbar and click OK. It will appear on the PowerPoint screen with no buttons. To place buttons there, use the copying instructions above.

Change Button Size

If you've ever lowered your monitor's resolution setting, you know the sensation of suddenly seeing everything on-screen about 50% larger than usual. For anyone who gets tired of squinting at their screen all day, it can be a revelation. A similar trick is available in PowerPoint. To make all the toolbar buttons bigger, choose Tools and Customize, and on the Options tab, check the Large Icons option. It looks pretty odd—as though the interface for kids' software has taken over your screen. But if you don't like hunting for buttons, this could be the answer for you.

Change Button Images

Open the Customize dialog box and click the button you want to change. On the Commands tab, click Modify Selection and Change Button Image. The little window that pops up lets you choose from 42 icons. You also can give a button an image of your own. Copy the new image to the Clipboard, and follow the above steps, but choose Paste Button Image instead of Change Button Image. You can always get the original image back by clicking Modify Selection and Reset Button Image.

Restore Buttons

If your extreme makeover gets out of control, it's easy to go back. Open the Customize dialog box, click the name of a toolbar, and click Reset.

BY TREVOR MEERS

Quick Tips

Secrets For Succeeding In Common Tasks

BY STEPHEN J. BIGELOW

Burning CDs

Question: I have trouble burning audio CDs through Rhapsody—sometimes there are problems with the burn. Is there any way to fix this?

Answer: Bad burns can come from a number of sources, but it's easy to check for problems. With Rhapsody running, click Tools and Preferences and then select the CD Burning entry. In the Default CD Burner area, select the Enable Test Burn checkbox. This will cause Rhapsody to test the burn process without actually writing your blank CD. If the test runs properly, chances are that the problem is in your CD burner itself. Try different media or try writing to a different drive. (For example, if you have multiple burners on your PC, try writing a CD through a DVD burner rather than an older CD burner.) If the test burn reports errors, try burning the CD at a slower speed and make sure that you're burning in the Disc-At-Once mode instead of the Track-At-Once mode.

Internet Explorer

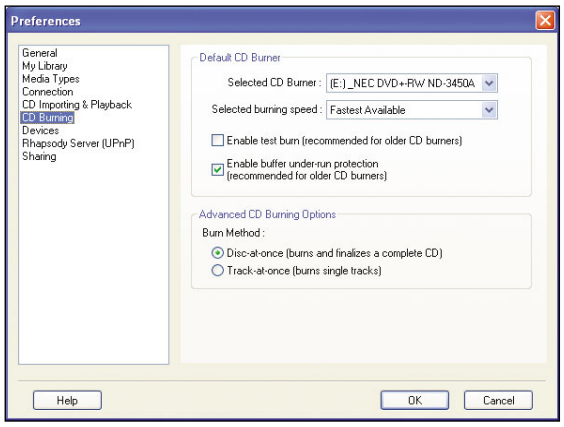
Question: Can I use Internet Explorer to block unwanted Web sites rather than purchase third-party security software?

Answer: IE provides security features that you can use to allow or block unwanted Web sites. This can be particularly handy when there are just a handful of sensitive sites for a parent to manage (such as MySpace.com). With IE running, click Tools and Internet Options and select the Security tab. Highlight the Restricted Sites icon and click the Sites button. Enter the Web site URL in the space provided and click Add to place the site on your blocked list. You can enter and add other sites if necessary and then click OK to save your changes.

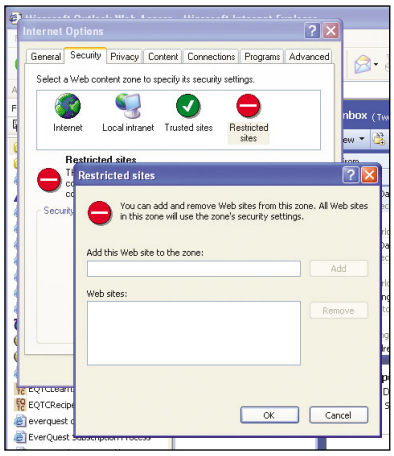
Security

Question: Should I write my passwords down anywhere?

Answer: Writing down your passwords can easily defeat the purpose of having them in the first place, but without knowing your passwords, a trusted friend or family member will have a hard time taking care of your affairs in case you get hurt. Far too many people write their passwords on sticky notes and then just stick them on the monitor for all to see. That's a bad idea. But not recording your password at all can also be risky. Consider a compromise—write your critical passwords down on paper and place that piece of paper in a safe or other secure location known only to a spouse or other trusted individual who you would want to access your sensitive accounts in an emergency. Always remember to change your critical passwords regularly and remember to update your password list accordingly.



Use the CD Burning preferences menu to help isolate and correct common CD burning problems.



Internet Explorer lets you block or allow specific Web sites without having to rely on third-party security software.

File & Data Recovery

Question: Why are files still recoverable after I've deleted them? Is there a way for me to make sensitive files unrecoverable?

Answer: Drive space is not a single empty field waiting for data. In reality, drive space is divided up into small storage areas called clusters. When a file is stored, it is also broken up and allotted to fill free clusters across the drive. The FAT (file allocation table) only points to the first cluster used by the file—that first cluster points to the second cluster used by the file, the second cluster points to the third, and so on. When you delete a file, you're not actually erasing the file's data. Instead, you're simply telling the operating system that the clusters involved in that file are free for reuse. So if you save a new file to the drive, that new file can overwrite some of those freed clusters. Data recovery utilities work by re-establishing the FAT connections to the clusters used by the given file. As long as you don't overwrite any of the clusters used by the file, it's possible to undelete the file. If overwriting has occurred, it may not be possible to undelete the entire file, but the file's data will remain intact in any clusters that haven't yet been overwritten. The only way to truly erase a file is to completely overwrite the data in each cluster used by the file. There are numerous erasure tools that write patterns of data to each cluster, leaving the original file completely unrecoverable.

Wireless Routers

Question: Is it really worthwhile to attach larger antennas to my wireless router?

Answer: Aftermarket antennas can provide better sensitivity and signal strength, thereby extending your wireless range or improving data throughput. The aftermarket antenna can be omni directional (with equal strength/sensitivity in all directions) or directional (with its best strength/sensitivity in only certain directions). Before buying an antenna, make sure it is compatible with the device you plan to attach it to. While aftermarket antennas can benefit wireless networking, it's virtually impossible to predict just how much that benefit will be in every case. Check the signal strength and throughput of your wireless stations before changing the antennas and recheck the performance characteristics after the new antennas are installed. Experiment with locations to find optimum placement.

Microsoft Word

Question: Every time I click a URL in a Word document, it launches the URL in a browser. How can I stop this from happening?

Answer: Microsoft Word 2003 lets you invoke a CRTL-click scheme that prevents launching URLs automatically. With your document open in Word, click Tools and Options, select the Edit tab, and then check the Use CRTL + Click To Follow Hyperlink box. Click OK. Now clicking a hyperlink should just place a cursor at that location instead of launching a browser window.

Microsoft Word

Question: How can I get my spell checker to check words in uppercase?

Answer: Microsoft Word 2003 provides a variety of options, including the option to check words in all uppercase letters. Click Tools and Options and select the Spelling & Grammar tab. By default, the Ignore Words In UPPERCASE box is checked, so the spell checker will ignore all-uppercase words. Deselect the box and click OK. Many users prefer to check spelling as an ongoing process, so also see that the Check Spelling As You Type box is checked.

Microsoft Outlook

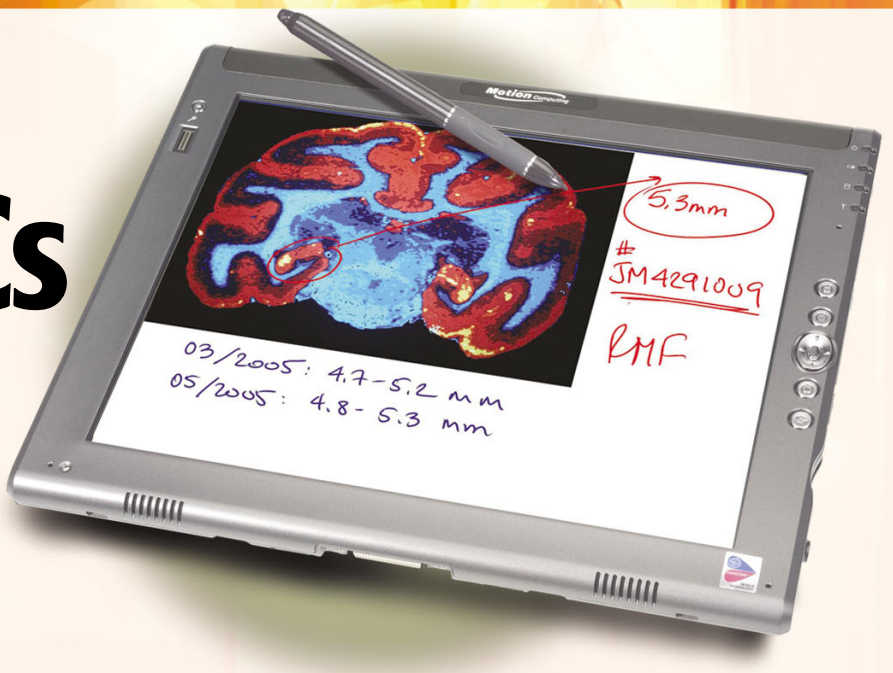
Question: How can I resend an email without having to retype the entire thing again?

Answer: With Microsoft Outlook 2003, open your Sent Items folder and double-click the desired email to open it in its own window. Click Actions and Resend This Message to open a duplicate message in another window. With this duplicate open, you can edit the message or subject line, add recipients, and make other changes to update the message. Click Send to place the duplicate copy into the Outbox, and click Send/Receive to get the copy on its way. Note that the instructions for resending a message in Outlook Express are not the same.

Compiled by Jennifer Farwell
Graphics & Design by Lindsay Anker

Tablet PCs

Lingering Fad Or Technology Of The Future?



Since the early 1980s, when Nobel prize winner Dr. Charles Elbaum developed the NestorWriter handwriting recognizer, some technology experts (notably Microsoft founder Bill Gates) have been talking up pen computers (now tablet PCs) as the future of computing. Unfortunately for the companies that lost millions of dollars investing in early devices, consumers failed to embrace inaccurate handwriting-recognition systems and the cumbersome devices that used them.

Never Say Never

Nevertheless, Gates kept the flame of pen computing alive. In 2001, when Microsoft debuted the first machine with the tablet PC moniker (running Windows XP Tablet PC Edition), interest in tablet PCs arose anew. This time around, tablet PCs featured Digital Ink, a technology whereby users could use a stylus to write and edit on-screen and have the OS (operating system) either perform handwriting recognition (better than the 1980s technology, but still not perfect) or save the text as a digital file.

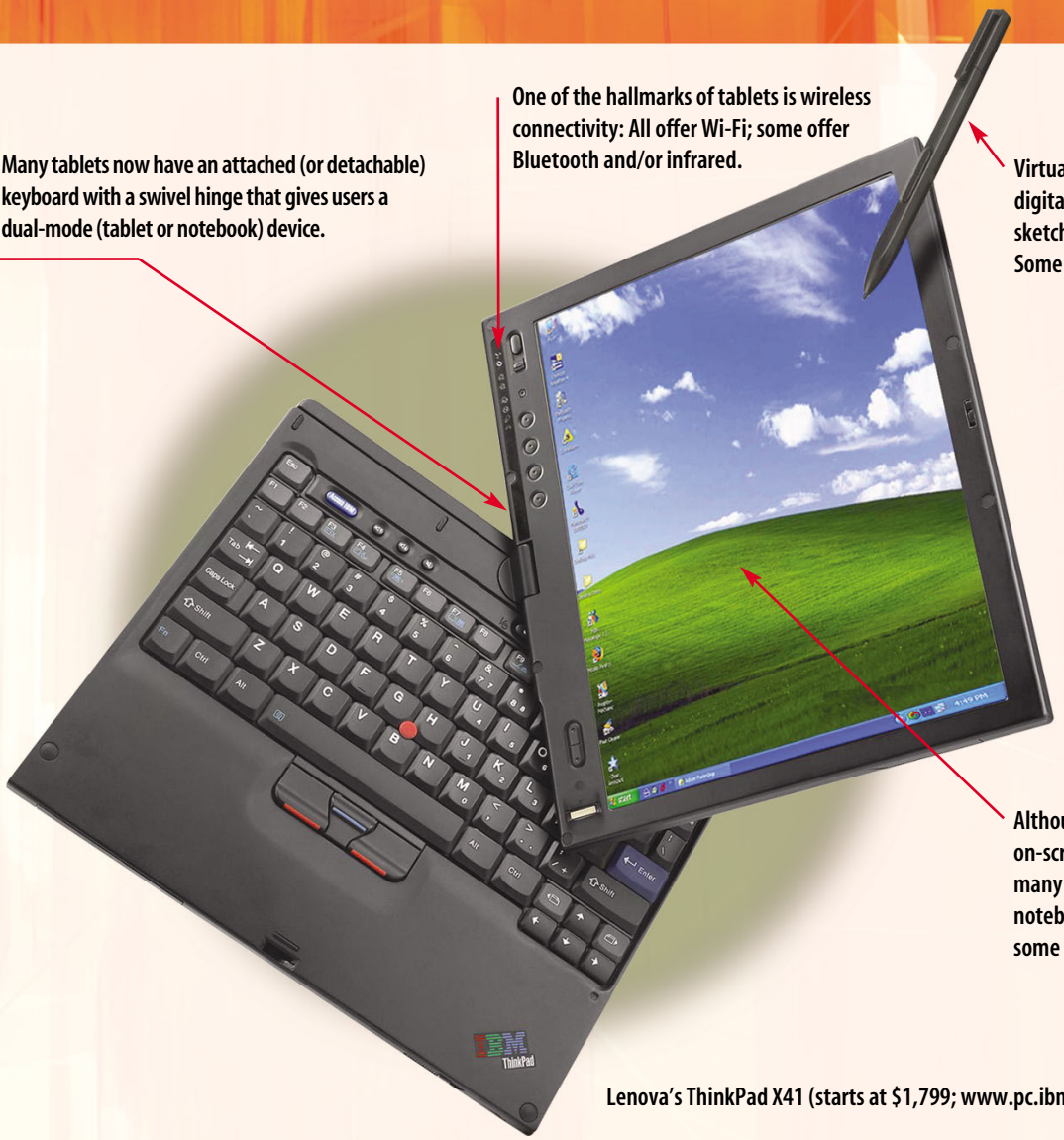
The digital file replicated the original handwriting but was fully searchable. The user could email it, open it in other Microsoft programs, or transfer it to another Windows PC. Vertical markets (healthcare, real estate, and insurance are prime examples) took the bait, and analysts snapped to attention, but consumer acceptance was still less than enthusiastic.

Powerful Acrobats

Today's tablet PCs sport an improved version of the Tablet PC operating system (WinXP Tablet PC Edition 2005) and enhanced deliveries of technologies Gates touted in 2002. For example, some devices now feature both stylus- and touchscreen-based selection and data capture; most offer an optional desktop docking station (some with extra ports); and many use a clamshell design with a swiveling display.

The clamshell swivel design gives users two profiles: tablet (closed with display face up) and notebook (open with display perpendicular to keyboard). It also lets them fully close and protect the unit, like you would a notebook. Even more important for continued market penetration, analysts assert, tablet PCs have dropped in price substantially, yet companies are equipping them with more full-fledged notebook features, including powerful processors, huge hard drives, and CD/DVD drives.

Many of today's tablets sport swiveling displays that extend their flexibility. (Shown is the HP Compaq tc1100—$1,649; www.hp.com.)



Lenova's ThinkPad X41 (starts at $1,799; www.pc.ibm.com).

Ready For Prime Time?

At the 2001 tablet PC announcement, Gates said, "Within five years, I predict it will be the most popular form of PC sold in America." Likewise, tech consulting firm Gartner projected in 2003 that 35% of notebooks would have screen digitizers by 2007. Both predictions missed the mark, but the current forecast is good for tablet PCs. According to a 2005 report from research firm In-Stat, worldwide shipments of tablet PCs could reach $5.4 billion by 2009, up from $1.2 billion in 2004.

Support from educational institutions may fuel the tablet fire, as well. Several schools, from elementary to college, have run pilot projects in the past few years, and in April, Virginia Tech announced that tablet PCs would be a technology requirement for all incoming freshmen to its College of Engineering. (The College of Business recommends, but does not require, that students use a tablet PC.)

Furthermore, reviewers across the industry have reported falling in love with the little critters. One that recently drew good reviews was Toshiba's Portégé M405 ($1,999; www.toshiba.com). If you need a notebook and you have between $1,500 and $2,000 to spend, give the new tablet notebooks a peek. The features are robust and sound, and the tablet is more fun than an Etch-A-Sketch.

Motion Computing's LS800 ($1,699; www.motioncomputing.com) is a half-sized notebook that can be docked with a monitor, keyboard, and CD/DVD drive.

This Month In Tech Support

Demystify Sleep Mode
Ward Off Spyware

Contributing Writers

Rachel Derowitsch
Gregory Anderson
Jeff Dodd

Next Month

Clear Up Memory Problems

What To Do When . . .

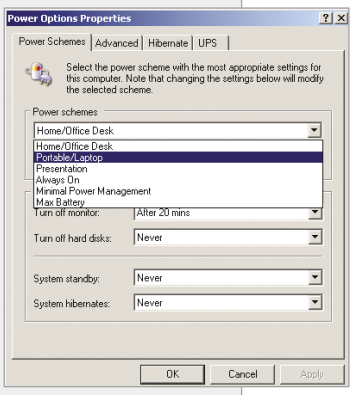
SP2 Causes Sleep Mode Problems

Windows' Sleep Mode is an excellent way to save power when you're not using your system for an extended period of time, especially for battery-powered notebooks. In Sleep Mode, components such as your screen and hard drive turn off; you can awaken them to their previous state by moving the mouse or pressing a key, or on a notebook, by opening the lid.

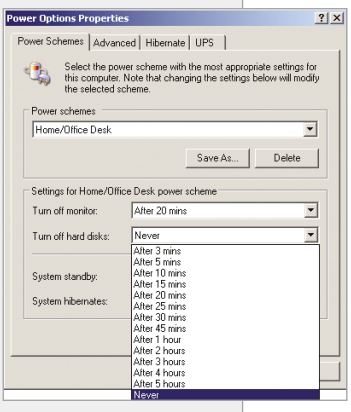
On its own, the Service Pack 2 update for Windows XP isn't reported to cause the Sleep Mode to quit functioning properly. But some users have noticed problems with the Sleep Mode, such as their system's inability to keep the proper time and date upon entering or exiting Sleep Mode, after installing SP2.

It's possible that the presence of SP2 combined with a third-party program or newly installed piece of hardware could be the culprit. As we'll see, the inability of Sleep Mode to work properly may not be the fault of SP2 so much as it may be a power management issue or conflicting drivers.

Here are ways to resolve the problem without uninstalling SP2.



You can customize different power options for desktop systems and notebooks.



Don't put your hard drive into Sleep Mode if your system has a hard time waking up from that mode.

Check Your Power Management

The root cause of Sleep Mode problems often lies with a system's power management, so your first step should be to figure out which type of power management your system uses: APM (Advanced Power Management) or ACPI (Advanced Configuration and Power Interface).

APM is the older management system. On computers that employ APM, the BIOS (Basic Input/Output System) takes charge of the managing the system's power levels. Newer computers use ACPI, a power management system that lets Windows control the power for all components of the system. You need to make sure the settings in BIOS are appropriate for the type of power management system your computer uses. In ACPI systems, a power management conflict between the BIOS and Windows could result in the inability to use Sleep Mode.

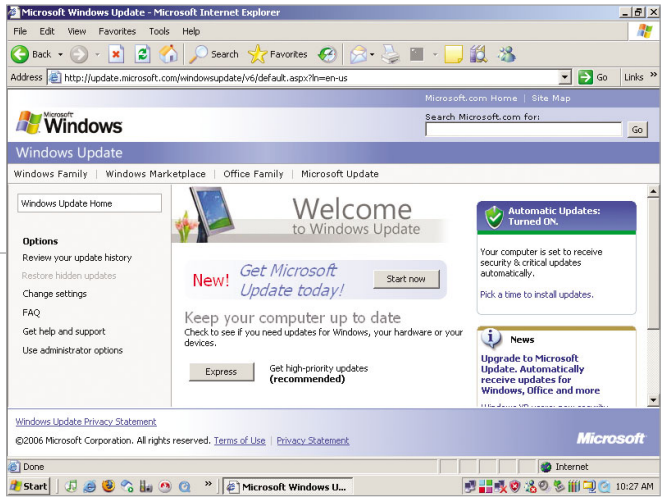
To enter the BIOS, you need to press a key—such as DELETE or one of the function buttons—just after you turn on your PC but before Windows starts. (The name of the BIOS-access key should flash on your monitor before you see the Windows logo, probably on the same screen in which you see the name of your computer's manufacturer.) Press that key and then scroll through the options to select Power.

The Power screen will tell you whether your system uses APM or ACPI. If it's APM, make sure that the main APM option is on or enabled. If it's off, that may be the reason Windows "loses" the time and or date when you wake your system out of Sleep Mode. Other, less significant APM options, such as hard drive timeouts, do not have to be enabled.

If your system uses ACPI, disable the power management options in BIOS if you're having trouble using Sleep Mode. ACPI allows for six power management levels, three of which are categorized as Standby. Standby is similar to Sleep Mode, but as we'll see, you can put your monitor and hard drive in Sleep Mode without putting your entire system on Standby.

The categories of Standby are:

S0—normal operating power
S1—Standby; monitor and hard drives are off, but CPU and RAM are on
S2—Standby; CPU is turned off
S3—Standby; power is available only to RAM
S4—Hibernate; power is off, but contents of RAM were copied to the hard drive
S5—system completely off



If a software publisher's Web site doesn't list an updated driver, try going to the Microsoft Update Web site.

In the BIOS, you may see only two or three of these options. That's OK, because computer manufacturers configure their systems differently—not all PCs are made to use all six levels.

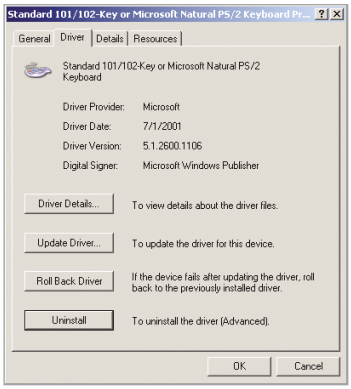
Reset Your Power Options

Now that you've squared away the BIOS settings, set (or reset) the Power Options in Windows. It's possible that installing SP2 changed your default settings here and that alone is the source of your Sleep Mode glitches.

To find out, open the Control Panel from the Start menu and double-click Power Options. On the Power Schemes tab, choose the correct scheme from the drop-down menu for your system (either Home/Office Desk or Portable/Laptop). What you select here affects the options below, but you can change these settings as you wish.

A reasonable setting for a monitor is 10 to 20 min-utes. It's best to give your hard drive a longer amount of time before letting it enter Sleep Mode. Some users select Never for this setting. If you are having trouble with Sleep Mode, try using Sleep Mode for just your monitor.

Below these settings you might see options for System Standby and possibly System Hibernate. As mentioned, you don't need to activate these for your monitor and hard drive to enter Sleep Mode.



Use the Device Manager to uninstall and then update conflicting hardware drivers.

Update Your Drivers

Long before SP2 was released, Windows users occasionally encountered problems when trying to use Sleep Mode, such as the system's inability to wake up from Sleep Mode without first shutting down. This might have been due to the fact that Windows 98 and Windows Me were not quite as stable as the newer WinXP, especially when the hard drive went into Sleep Mode. More likely, however, problems with Sleep Mode arise because of driver conflicts.

Microsoft has documented known conflicts between Sleep Mode in WinXP and drivers that are loaded when users install third-party programs or new hardware. Programs such as the Adobe Type Manager 4.0, for instance, load a driver that attaches to the driver associated with certain keyboards—such as the Microsoft Natural PS/2 model—preventing Sleep Mode from working.

If the problem is with a program, seek an updated driver from the software publisher. At times, drivers preloaded with software you buy on discs are outdated by the time you install the program on your system. So check the publisher's Web site first and then the Microsoft Windows Update (update.microsoft.com) to see if new drivers are available.

If you suspect the problem is due to a hardware driver conflict, you'll need to uninstall the driver and get an updated one. In the Control Panel, click System and select the Hardware tab. Click the Device Manager and then the category of device that's causing the problem. Double-click the name of the device from the list, and on the Driver tab, choose Uninstall Driver. Then use the same screen later to begin the process of obtaining a new driver with the Update Driver button.

Common Cures

Chances are WinXP SP2 won't cause any Sleep Mode problems for your system. But if this valuable feature won't cooperate, try fixing it with three common cures—the BIOS, Power Options, or driver updates—before uninstalling the service pack. ■

BY RACHEL DEROWITSCH

Examining Errors

BY JEFF DODD

Problem: In the process of trying to improve the performance of his laptop PC, a reader downloaded a BIOS (Basic Input/Output System) update file to his desktop PC. He then transferred the file from the desktop to the laptop PC and updated its BIOS successfully. Unfortunately, he now gets an error message whenever he tries to remove the BIOS update file from his desktop PC.

Error Message: "Cannot delete spsdijg8: It is being used by another person or program. Close any programs that might be using the file and try again."

Solution: In his valiant attempt to improve the performance of his laptop PC, the reader has apparently installed the BIOS update on his desktop PC. As a result, the file has become entrenched in the desktop's startup routine and is constantly "being used" in the background whenever the computer is turned on. This explains why the reader cannot delete the file even after rebooting the PC or closing all open programs.

The solution is to delete the file from within Safe Mode. To access Safe Mode, the reader should reboot his desktop PC while pressing the F8 key repeatedly. The Windows Startup menu will appear on-screen. The reader should select Safe Mode from the menu and press ENTER. After the computer starts in Safe Mode, the reader can try to delete the file and hopefully he will succeed.

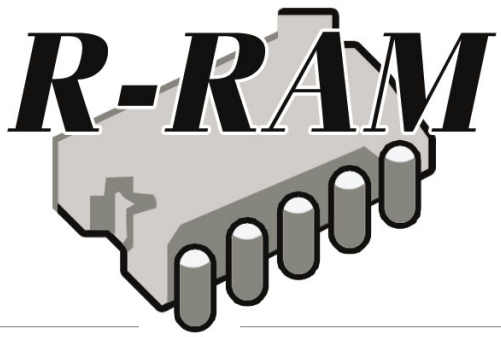
If he doesn't, the reader should obtain a DOS boot disk (for full instructions, subscribers can access "What To Do When … You Need To Create A Boot Disk" at www.smartcomputing.com/rsdec03/bootdisk), insert it in the desktop PC, and reboot the computer. The PC will boot to a DOS prompt. The reader then should type **del *C*:\<*path*>\spsdijg8.exe** (where ***C*** represents the drive letter assigned to the Windows drive, and <***path***> represents the location of the unwanted file) and press ENTER. The reader can verify that the file is gone by removing the boot disk and rebooting into Windows.

Problem: After replacing one 512MB memory module with two 1GB modules, a Windows XP user receives a pair of error messages each time he boots his PC. When he removes one of the new modules, the errors don't appear.

Error Messages: "R-RAM. An error has occurred. The following info may help debug. Available RAM: 1697.13. VM: -85. Total RAM: 2031." *AND* "R-RAM. An error has occurred. The following info may help debug. Available RAM: 1757.55. VM: -47. Total RAM: 2031."

Solution: These error messages point to a shareware memory-optimization utility called Release RAM. According to the company that develops Release RAM, these errors are known to occur when a computer's virtual memory setting is configured to a capacity of more than 1,000MB. The reader should be able to eliminate the errors by uninstalling Release RAM or tweaking the virtual memory settings.

To tweak the virtual memory setting in WinXP, the reader should right-click My Computer and select Properties from the pop-up menu. On the Advanced tab of the resulting System Properties dialog box, the reader should locate the Performance heading and click the corresponding Settings button. When the Performance Options dialog box appears, he should choose its Advanced tab, locate the Virtual Memory heading, and click the corresponding Change button. In the Virtual Memory dialog box, the reader should set the Maximum Size option to 999 (or less) and the Initial Size option to something less than that. He then should click OK to save the settings, close the various dialog boxes, and reboot his PC.



In addition, the reader should install the most recent Release RAM update by accessing the file from www.acceleratedsoftware.net/updates/RRAM.exe. He should download the file into the R-RAM folder on the Windows drive, where it will overwrite the existing Rram.exe file.

Problem: After upgrading to WinXP SP2 (Service Pack 2), a reader began receiving an error message each time he started his computer. The error message indicated a problem with the Nwiz.exe file. The reader scanned his system for spyware and, using the System Configuration Utility (also known as Msconfig.exe), he disabled the troublesome file. This eliminated the error message, but the message began appearing again when he re-enabled the file in the System Configuration Utility. The reader wants to find a permanent solution to the error.

Error Message: "Nwiz.exe has encountered a problem and needs to close. We are sorry for the inconvenience. If you were in the middle of something, the information you were working on might be lost."

Solution: The Nwiz.exe file is associated with NVIDIA graphics cards. Odds are good the file became outdated when the reader upgraded to WinXP SP2. We advise the reader to open the Add Or Remove Programs utility in the Control Panel and uninstall all NVIDIA-related software. After rebooting the system, he then should visit the NVIDIA downloads page at www.nvidia.com/content/drivers/drivers.asp and search for the latest software for his particular graphics card. He can find out which card he has by reviewing the documentation that came with his computer or by accessing the System Information tool in Windows (click Start, All Programs, Accessories, and System Tools). Either way, he should download and install the appropriate NVIDIA software and then reboot his system.

If that doesn't work, the reader can permanently remove the file from the startup routine by editing the Registry. However, because editing the Registry is risky, the reader should proceed with caution. He also should back up all vital data files and create a restore point with System Restore. After taking these precautionary steps, he can access the Registry Editor by opening the Start menu, selecting Run, typing **regedit** in the Open field, and clicking OK. When the Registry Editor appears on-screen, the reader should access the HKEY_LOCAL_MACHINE\SOFTWARE\MICROSOFT\WINDOWS\CURRENTVERSION\RUN key and delete all values that point to Nwiz.exe.

Have questions about an error message you've seen? Send us your message (errormessages@smartcomputing.com), and we'll try to decipher it. Tell us what version of Windows you're using, give the full text of the error message, and provide as many details in your explanation as possible. Volume prohibits individual replies.

Fast Fixes

Security Update For Windows Media Player 10 For Windows XP

Problem: Microsoft discovered a vulnerability in Media Player 10 for WinXP that could let an attacker access and take control of your computer.

Resolution: Install this 2.4MB patch to protect your computer from remote attacks. To access the Microsoft download site, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB911565** in the Search text box and click Go. Click the link named Security Update For Windows Media Player 10 For Windows XP (KB911565) and then click Download. After the transfer is complete, double-click the file (WindowsMedia10-KB911565-v2-x86-ENU.exe) to begin the installation process.

www.microsoft.com/downloads

Cumulative Update For Internet Explorer For Windows XP Service Pack 2

Problem: Microsoft pinpointed flaws in its Internet Explorer Web browser that could let a hacker steal or destroy data on your computer. These problems apply to computers that use Service Pack 2.

Resolution: Download and install this 4.8MB file to protect your computer's data. To download the patch, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB912812** in the Search text box and click Go. Click the link named Cumulative Update For Internet Explorer For Windows XP Service Pack 2 (KB912812) and click Download. After the transfer is complete, double-click the file (WindowsXP-KB912812-x86-ENU.exe) to begin the installation process.

www.microsoft.com/downloads

Cumulative Update For Internet Explorer 6 Service Pack 1

Problem: If you use Internet Explorer 6 with Service Pack 1, you should know that the application has a programming defect that could let an attacker take control of your PC.

Resolution: To protect your computer from this threat, download and install this 4.8MB patch from Microsoft. To download the file, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB912812** in the Search text box and click Go. Scroll down, click the link named Cumulative Update For Internet Explorer 6 SP1 (KB912812), and then click Download. After the transfer is complete, double-click the file (IE6.0sp1-KB912812-Windows-2000-XP-x86-ENU.exe) to begin installation.

www.microsoft.com/downloads

Fix Of The Month

Update For Windows XP Media Center Edition 2005

Problem: If you installed Update Rollup 2 For Windows XP Media Center Edition 2005, you may encounter digital rights management-related problems when you try to use protected content.

Resolution: Download and install this 7.7MB patch to resolve rights-related difficulties. To download the update, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB913800** in the Search text box and click Go. Click the link named Update For Windows XP Media Center Edition 2005 (KB913800) and then click Download. After the transfer is complete, double-click the file (WindowsMedia10-KB913800-x86-ENU.exe) to begin the installation process.

www.microsoft.com/downloads

Security Update For Windows XP

Problem: Microsoft discovered a problem with its WinXP operating system that could let a hacker damage or steal data and affect your PC's performance.

Resolution: Shield your computer from attacks by downloading and installing this 561KB update. To download the file, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB911562** in the Search text box and click Go. Click the link named Security Update For Windows XP (KB911562) and then click Download. After the transfer is complete, double-click the file (WindowsXP-KB911562-x86-ENU.exe) to begin the installation.

www.microsoft.com/downloads

Cumulative Security Update For Outlook Express For Windows XP

Problem: Outlook Express for WinXP has a defect that could let a hacker take over your computer.

Resolution: Use this 1.5MB patch to repair the program and protect your PC. To download the file, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB911567** in the Search text box and click Go. Click the link named Cumulative Security Update For Outlook Express For Windows XP (KB911567) and then click Download. After the transfer is complete, double-click the file (WindowsXP-KB911567-x86-ENU.exe) to begin the installation.

www.microsoft.com/downloads

Q&A

Need help with your hardware or software? Looking for simple explanations on technical subjects? Send us your questions!

Get straight answers to your technical questions from *Smart Computing*. Send your questions, along with a phone and/or fax number, so we can call you if necessary, to: *Smart Computing* Q&A, P.O. Box 85380, Lincoln, NE 68501, or email us at q&a@smartcomputing.com. Please include all version numbers for the software about which you're inquiring, operating system information, and any relevant information about your system. (Volume prohibits individual replies.)

Hardware

Q My Acer Laptop Travelmate 261 is about three years old. The Li-Ion (lithium-ion) battery in it was supposed to last for four hours, but it met that time frame for only the first few months. Because I used the computer at home a lot (and because I disliked having to plug the laptop in when it reached the Low Battery stage at inconvenient times), I started to leave the laptop plugged in most of the time as I was working on it. Whenever I tried to run the laptop occasionally from the battery, the computer would shut down without warning after 10 to 15 minutes, even though the battery level indicated there was still about three hours of computing time remaining in its charge. Some people have suggested that I fully charge the battery per indicator and then freeze the battery overnight to restore it to full capacity. Other people have told me that this is the wrong thing to do for a Li-Ion battery. Can you shed some light on this?

A Your observations are accurate. After time, no matter how well you treat your Li-Ion battery, the amount of charge it will hold will deteriorate, and there's no magic solution to bring the battery back. You're also correct on another point: There's definitely a lot of opinion available online about the care and feeding of Li-Ion batteries. After reading several reams of often-contradictory advice, however, we found the clearest information to be from Cadex Electronics, a manufacturer of battery analyzers and chargers, through the Battery University Web site (www.batteryuniversity.com).

Here's the explanation: Keeping a notebook computer's Li-Ion battery plugged in isn't what kills it. Once a notebook's Li-Ion is fully charged, it stops taking on more charge. Nor is the source of the battery (Acer) to blame. Instead, the cause of the problem is inherent in all Li-Ion batteries: They're good for only a limited number of charge/discharge cycles, with the number varying by reporter and environmental issues. Regardless, 18 months is about the age at which the deterioration becomes most noticeable.

Unlike earlier battery technologies, such as NiMH (nickel-metal hydride) and NiCad (nickel-cadmium), Li-Ion batteries don't suffer from memory effect. Not only do they love short charges (recharge them early and often), but deep discharges will shorten their lives. Nevertheless, Li-Ion batteries do die—a process that starts as soon as they leave the factory, regardless of whether they're used.

Alas, there is no magic solution that allows you to get your battery back from the point at which you've described yours to be. Freezing won't help, either; in fact, if you do a quick freeze, followed by immediate use (without allowing the battery to warm up to room temperature over a period of at least 24 hours), you'll simply make things worse.

The only time you can bring a Li-Ion battery back to life is if it's relatively young in its life span and if it has been allowed to deplete past the point where its internal safety circuit opens and the battery appears dead (below 2.5 volts per cell, just in case you're curious). At this point, the battery's supplied charger won't work any more and only a special type of charger (made by Cadex and others) can give the battery the necessary "boost" to do the job.

You also can use the following suggestions to prolong the life of the next new Li-Ion battery you get. If you're not going to use the battery for a while, and if the manufacturer of the notebook computer says it's OK to proceed, store the battery in a cool place with about a 40% charge. How cool should this storage area be, and why shouldn't the battery be fully charged? Both temperature and state of charge affect the capacity of a Li-Ion battery and its rate of deterioration as shown by the following table. (*Source: Battery University*)

Temperature	40% charge level (recommended storage charge level)	100% charge level (typical user charge level)
0°C (32°F)	2% loss after one year	6% loss after one year
25°C (77°F)	4% loss after one year	20% loss after one year
40°C (104°F)	15% loss after one year	35% loss after one year
60°C (140°F)	25% loss after one year	40% loss after three months

There is another factor that directly affects the longevity of Li-Ion batteries, but it's not one that consumers are likely to be able to effect. Put simply, a moderate rate of charge and discharge will prolong the battery's life, while rapid charge and discharge will shorten it. Beyond these two basic factors, there are some simple things you can do—and not do—to improve your Li-Ion's time among us:

Avoid frequent full discharges. The reason this is an issue is because performing frequent full discharges puts additional strain on the battery. Several partial discharges with frequent recharges are better for Li-Ion batteries than one deep one. Recharging a partially charged Li-Ion battery doesn't cause harm because there is no memory. (In this respect, Li-Ion differs from nickel-based batteries.) Short battery life in a notebook computer is mainly caused by heat rather than by charge/discharge patterns.

Batteries with fuel gauges (notably notebook computers) should be calibrated. You should calibrate these batteries by applying a deliberate full discharge once every 30 charges. (Running the pack down in the equipment does this.) If ignored, the fuel gauge will become increasingly less accurate, and in some cases, it can cut off the device prematurely.

Keep the Li-Ion battery cool. Avoid a hot car. For prolonged storage, keep the battery at a 40% charge level.

Consider removal. Perhaps you should think about removing the battery from a notebook when you're running the computer on fixed power. This isn't because the battery will overcharge; it's to save the battery from the extra heat. (Some notebook manufacturers are concerned about dust and moisture accumulating inside the battery casing, whereas others warn that in the event of a power outage, or if you disconnect the notebook forgetting that the battery isn't there, you may lose data.)

Avoid purchasing spares. Don't just buy Li-Ion batteries for later use. You must observe the manufacturing dates. Also, don't buy old stock, even if it's sold at clearance prices.

If you have a spare. If you happen to have a spare Li-Ion battery, use one to the fullest and keep the other one cool by placing it in the refrigerator. (Just make sure you warm the battery to room temperature before use.) Do *not* freeze the battery. For best results, store the battery at a 40% state-of-charge.

Multimedia

Q My iPod has frozen, and I can't get it to work. How do I fix this and prevent it from happening again?

A Even a popular device such as Apple's iPod has some problems. Just like any computing device, the iPod can lock up or "freeze" for a variety of reasons. Reviving your iPod involves a few simple steps. You didn't mention which iPod you own, but we'll cover the steps for most of the recent models.

Resetting your iPod preserves your music and files stored on the iPod, but you may lose some customized settings. Most settings will reflect what was on your iPod the last time it turned on properly.

iPods come in three basic versions: shuffle models, scroll/touch-wheel iPods, and Click Wheel iPods. All of the most recent iPods on the market are Click Wheel models. If you need to, you can visit www.info.apple.com/kbnum/n61688 to determine which type of iPod you own.

To reset your Click Wheel iPod, toggle the Hold switch on and off. Next, simultaneously press the Menu and the Select buttons (the latter of which is in the center of the iPod) for roughly five to 10 seconds. If the reset action is working, you should see the Apple logo appear. If nothing happens after 10 seconds, repeat these steps again.

If you don't see any results after your repeated attempt, try connecting your iPod to either your computer or the iPod's power adapter, and try the reset steps again. If your iPod still doesn't respond, it may need to be

recharged. Let it recharge for an hour or two and then repeat the reset steps.

If none of these steps work, you'll need to visit Apple's Web site at depot.info.apple.com/ipod to see if your iPod is still covered by warranty, as well as to initiate a support request.

For a scroll/touch-wheel iPod, toggle the Hold switch on and off. Next, press the Play/Pause and Menu buttons until the Apple/iPod logo appears. If nothing happens after 10 seconds, repeat these steps again.

As with the Click Wheel iPod, follow the same steps to reset your scroll/touch-wheel iPod while you're connected to either its power adapter or your computer. If you still can't reset your scroll/touch-wheel iPod, try recharging it next. And if all else fails, visit the URL we mentioned earlier to check the iPod's warranty and initiate a support request.

Resetting your iPod shuffle is a bit different due to the design differences. First, be sure your shuffle is turned on (with the green strip showing). Wait five seconds, toggle the switch off, and then turn it on to either the "shuffle songs" or "play in order" setting.

If your status light blinks orange, it means the buttons are disabled. To enable the buttons, press and hold the Play/Pause button for three seconds until the green status light comes on. If your Shuffle remains frozen, you'll need to visit the URL we mentioned previously to initiate a return or a repair for your iPod.

As far as prevention is concerned, there are several steps you can take to help minimize the chance of your iPod freezing up. The first is to keep the software on your iPod current. Apple periodically releases updates to iPod's software to either add new features or resolve problems. These updates are available at www.apple.com/ipod/download.

When you start the iPod Updater, you have two options: Update and Restore. The Update option simply updates your existing software to the new version, while retaining the songs and files you've stored on your iPod. In contrast, the Restore option completely erases your data on the iPod, restoring it to factory condition. To find in-depth instructions about using the iPod Updater, go to docs.info.apple.com/article.html?artnum=60944.

Another thing you can do to help prevent freeze-ups is to make sure that you disconnect your iPod after it finishes synchronizing with your computer. If you inadvertently disconnect the iPod while it's synchronizing, you may corrupt its hard drive. Make sure you wait until you see the iPod's menu appear or see an "OK to disconnect" message display on the iPod's screen.

Hardware

Q I have a Dell Dimension 2400 computer with a Pentium 4 CPU, 512MB of RAM, and Windows XP Home Edition. Some time ago, I started to get this pop-up message: "Your available RAM has dropped below the specified limit." After the message, I am given four options: recover memory to the target level, defrag all memory, snooze, or disable automatic memory level detection; I've been using the first option. I also have defragged my memory with no results. I'm afraid to try the other two options. What can I do to fix this problem? Dell has been of no help.

A There are a number of software products—including commercial, shareware, and freeware applications—that offer to defragment or otherwise optimize memory for Windows users. Such applications began to appear on the market just before the release of Windows 95, but then they seemed to disappear for a while; it now looks as though they're back.

But even if these products work properly (some of the early ones didn't), they may be of limited use to your WinXP system. Without going into a long technical explanation, we'll just point out that Windows versions prior to Windows 2000 and WinXP used several, small (as in 64KB) "heaps" of memory for several of its operations (screen and print font rendering, menu animation, and so on). These heaps had names such as GDI, Kernel, and User. When Windows started, these memory heaps (also called resources) would be fully stocked with memory. During a system's operation, however, some applications—which are sometimes referred to as "bad applications" (such as Microsoft Word)—would access

memory heaps but not return the memory used when the apps were shut down. The result was that, after a period of time, Windows would flash a message saying you were low on resources, or you'd get an illegal operation error message. The only solution was to reboot periodically (at least once a day if you were busy) to get the heaps back again.

The memory heap problem diminished with the release of Win2000 and WinXP because both OSes (operating systems) have virtually unlimited resource heaps. In fact, you can run them for weeks without having to reboot—well, at least not for the reasons we stated above.

Now, after providing some background information, let's get back to analyzing the pop-up message you mentioned. Dell doesn't put anything on its PCs that monitors memory in the way you describe, but you certainly aren't the only reader to describe such a problem. In fact, there is at least one unanswered version of this question at *Smart Computing*'s online Q&A Board (at the time of this writing). Although we haven't encountered this message ourselves, we're convinced you've picked up some type of adware during your online travels and that's what is responsible for the pop-up message.

To eliminate the problem, use a reputable antispyware product such as Patrick Kolla's Spybot Search & Destroy (free; www.safer-networking.org), Lavasoft's Ad-Aware SE Personal (free; www.lavasoft.de/software/adaware), or Microsoft's Windows Defender (free Beta 2 version; www.microsoft.com/athome/security/spyware/software).

(*NOTE: It also pays to be aware of software that only claims to be antispyware, particularly of products that cause more problems than they solve. For more information, see www.spywarewarrior.com/rogue_anti-spyware.htm.*)

Hardware

Q There seems to be an increasing number of computers being sold (or built) with either Serial ATA (Advanced Technology Attachment) or SCSI (Small Computer System Interface) RAID (redundant array of inexpensive disks). I just obtained a computer running WinXP Professional (and SP2 [Service Pack 2]) with a SCSI RAID level 0 array set up for the hard drive (labeled C). I picked up Diskeeper 9 so I could use it as a defrag utility because I noticed advertising which stated it could handle RAID configurations; it does and works quite nicely. However, the error-checking function native to Windows (when I right-click the local hard drive icon, click Properties, choose Tools, and click Check Now below the Error-checking title) doesn't seem to function well on a RAID array—well, at least not on my system. Could you suggest some software products that can properly handle the disk error-checking function for RAID systems or any utilities that are well-suited to disk arrays?

A When using a RAID array, it's unnecessary to use the built-in error-checking functionality that WinXP includes. Windows "sees" the array as a single drive, which causes some problems with the Chkdsk.exe utility. Chkdsk.exe is primarily used to search for bad sectors and clusters on a hard drive, and because a RAID array is composed of multiple hard drives, Chkdsk.exe can't properly determine what's occurring.

Fortunately, most RAID controllers include error checking at a basic level in their software. These controllers do this because most RAID arrays need to know if there's a bad sector on one of the hard drives that comprise the array. Then, if the RAID controller spots one, it marks the offending sector as bad so that no data is written to that sector.

However, you're running a RAID 0 array; so, despite the RAID name, there's no redundancy in a RAID 0 array. Each drive in a RAID 0 array is simply concatenated together into one large volume. Thus, if one drive fails in this array, you'll usually lose all the data in the array. So, the RAID controller *may* still be conducting routine error-checking before writing data to the array, but that's not guaranteed (as it would be with a different RAID configuration).

RAID 0 works well if you're looking for the best performance available with a RAID array—just be forewarned that for true redundancy of your data, you'll want to migrate to either a RAID 1 (disk mirroring) or a RAID 5 (disk striping with parity) configuration.

Frequently Asked Questions

Answers to users' most common questions about MP3 Recording

FAQ How do I copy audio tracks from my CDs? Is it legal?

Use CD-recording software and an optical drive that's capable of DAE (digital audio extraction). The necessary software is available in products such as Roxio's Easy Media Creator 8 (www.roxio.com), Sonic's RecordNow 8 (www.sonic.com/products), and others. As for the drive, virtually every CD drive today supports DAE—but at various speeds; faster DAE means faster copying speeds. To verify the DAE capability of an older CD drive, use your recording software or a free third-party diagnostic app, such as CD Speed from www.cdspeed2000.com/go.php3?link=cdspeed.html.

If you just want to copy music to your hard drive, any CD drive with DAE will work; however, if you want to record those audio files to CD-Rs (CD-recordables) later, you'll need a CD-R or CD-RW (CD-rewriteable) drive that's designed for recording. If you have two CD drives (such as a CD-ROM and a CD-RW drive), you can often copy from one drive and record directly to another.

Is all this legal? Music is protected by copyright law, which makes it illegal to copy works without permission from the copyright holder. But the concept of "fair use" lets you copy protected works (that you legitimately own) for your own personal use. For example, you can copy your favorite tracks for a compilation CD or copy and encode the tracks for transfer to your MP3 player, but you can't give or sell the copied files to your friends or post those copied files on the Internet. Likewise, it's illegal to copy tracks from your friends' CDs or accept files that your friends copy for you. To find out more about these legal issues, visit the RIAA (Recording Industry Association of America) at www.riaa.com.

FAQ What's the difference between "ripping" and "encoding," and must I do both before burning files onto CD-Rs?

Ripping includes the process of encoding. To simply copy a track means to copy a digital audio track from a Red Book audio CD (usually) and save it as a file on a hard drive. However, the copied track is still in the Red Book format, so to play the file in another format—such as MP3—you'll need to also encode the file to the desired format. Thus, to rip a track means to copy a song from a CD and encode it into another format. If you're just making a straight copy of your favorite music tracks, it's not necessary to encode the data because you're just burning the files onto the destination CD. But if you want to transfer the tracks as MP3 files for a CD or your iPod, you'll need to convert the tracks to MP3s—in other words, encode them—with your recording software. MP3 files are much smaller than copied audio files, so that's why encoding them into a format that consumes less space is desirable—even if some of the audio quality is sacrificed.

Today, recording software will handle both processes—turning the combination of copying and encoding into ripping—in the same step. In this respect, users just have to select the source track on the audio CD and then define the destination drive, file name, format, and bit rate/quality level.

FAQ Is there a way to eliminate hisses and/or clicks from CDs?

Audio anomalies typically indicate the original digital audio file was extracted too fast. Try recopying the track several times at a variety of lower speeds and listen to each audio file from your hard drive to determine which speeds correspond to the cleanest copy. If the problem still persists at slower speeds, try another recording app. If the copied audio files sound clean but you're hearing hisses or pops on the CD to which you're recording, try recording at slower speeds and experiment with different media brands. If this problem became worse over time, it's time to replace the CD-RW drive.

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Travel Concerns & Kudos To Dell

I have a Visioneer XP 200 scanner for my notebook. The external power connector works in my home country of Lesotho, but the plug does not fit wall outlets in Europe where I travel frequently. I've contacted Visioneer regarding an adapter, but it has been unable to help me. I would prefer a universal adapter, but at the very least, I need a round plug compatible with outlets in Europe.

Umesh Kumar
Roma, Lesotho, Africa

Outlet designs and voltages differ greatly from country to country. While vendors usually include compatible plugs and power supplies for the country where you buy the device, they cannot offer much help when you take the product abroad.

We did find an APC Universal Plug Adapter (www.apc.com) available for $19.99 in the United States, but we're uncertain if the product is available in Lesotho. Outlet adapter kits are more bulky, but are also more readily available from a variety of online retailers.

Because Lesotho's 240V outlets are similar to the 220V to 230V outlets found in Europe, Umesh doesn't need a power converter. North American devices, however, accept 110V and may require a power converter when using with higher voltage outlets.

I've read many negative reviews about Dell's customer service so I wanted to share my positive experience with others. I've had a Dell desktop for the last five years and recently ordered a new Inspiron 6400 notebook with a DVD rewriteable drive. After using it briefly, I realized that the DVD drive wasn't functioning properly and contacted Dell's customer service. I placed three calls in total, and each contact was pleasant and respectful. In the end, Dell agreed to exchange the system. I had no problems working out the details with Dell, and I received my replacement quickly. After receiving the system, I noticed I still had problems formatting DVD+RWs. Once again, I contacted Dell and discovered that the Sonic software provided for CD and DVD burning was causing a conflict with my drive. Dell sent me Roxio software to replace the installed Sonic software, and that fixed the issue. My notebook is now running properly. Satisfied customers rarely speak out, so I wanted to take this opportunity to thank everyone at Dell for all the help and support.

Sandy F.
Nova Scotia, Canada

Dell's customer service has certainly taken plenty of lumps lately. Partly, this is because Dell sells a lot of computers. No company wants a bad product to wind up in the hands of a customer, but on occasion, it's still going to happen. If you sell a lot of products, you're going to sell more bad units even if the number of bad units is a small percentage of the total.

There's no question Sandy's right. Satisfied customers rarely take the time to write about their experiences. In part, it's because good customer service is like mozzarella on a pizza: It's *supposed* to be there.

On the other hand, if everything you read is negative, it's easy to believe that good customer service no longer exists. Every so often, it's nice to acknowledge that good service is still available and that not every call placed to customer service is the beginning of a personal nightmare.

Somebody's Watching Me

Spyware is a nuisance. And it's a security threat. Plus, it just plain irritates me on general principle: Don't tell me you're installing one thing on my computer while, in the meantime, you're leaving tons of nasty little surprises littered across my hard drive like rotten Easter eggs. And that goes for pop-ups and even gratuitous use of the System Tray, too. All these things get in my way, use up my precious computing resources, and make a general nuisance of themselves. Here are three simple things I've started doing on my Windows system to help keep control over my system where it belongs—with my wife.

Microsoft AntiSpyware

My first line of defense against nasty spyware, Trojan horses, and other assorted mischief-makers is Microsoft's free antispyware utility. Download it from www.microsoft.com/antispyware. Sure, there are plenty of commercial security suites and antispyware applications out there, and some do everything but brush your teeth. But for my limited money, Microsoft AntiSpyware (also referred to as Microsoft Defender) does just fine for what I want (stopping spyware, duh) and at a price I can get behind. It updates itself on a regular basis, keeps a constant eye out for suspicious programs or installers, and lets me know whenever something changes on my system. That way I can tell if the change is something I intended or if someone's trying to be sneaky.

Browser Tools

I admit it: I still use Internet Explorer. Lots of my nerdy compatriots are diehard Mozilla or Firefox fans, but I just haven't bothered to switch. If you're up for the transition, both of these other free browsers do a better job of browser security, pop-up blocking, and cookie handling. But, if you're lazy like me, you can still use some of IE's tools to help reduce your malware annoyance level. Under Tools and Internet Options, select the Privacy tab. Move the Settings slider to at least Medium High, blocking some of the nastier cookie types while preserving your ability to have your news portal remember who you are. Click the Advanced button, and you can direct IE to prompt you for every single cookie a site tries to place (whether from the site itself—first-party—or an associated site—third-party) if you're up for dealing with lots of little dialog boxes. Under the Pop-Up Blocker section, check the Block Pop-Ups box and click the Settings button. You can let trusted sites deliver pop-ups and set options for notification when unknown sites try feeding them to you.

System Tray Supervision

I'm also a real curmudgeon about what I let run in my System Tray. Neither Acrobat, nor Real Player, nor my silly sound card utility is so critical that they have to automatically launch every time I boot up and constantly run in the background so I can get that half-second edge on load time once a day when I use the program. Let enough of those cute little icons nest near your clock, and pretty soon, you won't be able to tell what's legit and what's sending your keystrokes to the Caymans. Check the options or preferences for every utility, application, and driver you install. Uncheck the Run On Startup options for anything that doesn't need to run all the time, and don't give noncritical applications permission to sit in the System Tray taking up resources. Of course your antivirus, firewall, and antispyware (see above) applications are the main exceptions. Next, check your Startup Program Group (under Start and Programs) and delete any shortcuts for programs you don't need at all times. Finally, run msconfig from the Run dialog box, choose the Startup tab, and deselect anything crafty (or insidious) enough to hide itself there. You can usually tell by expanding the Command column what program each service represents. You'll have more control over what's running when, and you'll help your machine run better in the process.

Spyware is a pain, but it doesn't have to ruin your day. And you don't even need a court order to thwart these bad guys. Combine good software, smart settings, and your own diligence to take back control. ❚❚

BY GREGORY ANDERSON

Gregory Anderson *is a regular contributor to* Smart Computing *and several other technology publications. He keeps a sharp eye (with the help of thick glasses) on computing trends and enjoys working with geeks of all stripes—most of the time. Regale him with your own spy stories at* gregory-anderson@smartcomputing.com.

Manufacturer Index

Technology can be a wonderful thing. But what happens when your computer, printer, or software goes on the lam? How are you going to fix it? Better yet, *who* can you contact to fix it? When you need to contact a manufacturer for tech support but can't find the appropriate information, look no further! SmartComputing.com's Tech Support Center provides a list of manufacturers, from Adobe and Dell to eBay and Xerox.

Go to www.smartcomputing.com and click the Tech Support Center link.

Scroll down to the bottom of the page and click the Manufacturer Tech Support Index link under the Other Helpful Tech Support Tools section.

Manufacturers are listed alphabetically, so you can find contact information quickly and easily! Each listing includes URLs to make finding answers simple. Phone numbers are also listed in addition to company addresses.

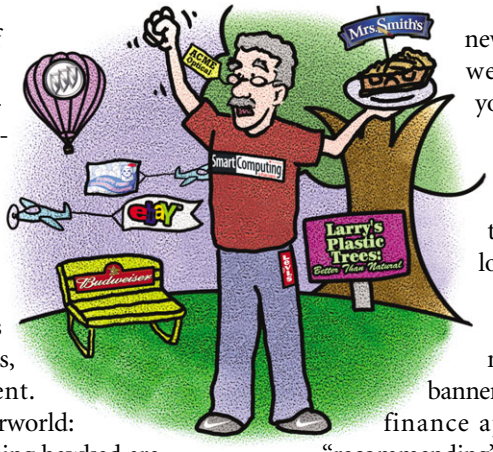
Be sure to check out the hardware and software vendor contact information at the bottom of the page, as well. The links will connect you to Microsoft's vendor contact information lists. The lists are quite extensive and contain a wealth of information in one easy-to-navigate location.

The next time your software bombs out or your ink cartridges aren't functioning properly, check out the Manufacturer Tech Support Index, contact the manufacturer directly, and get the answers you're looking for today!

Tips For A Successful Call

If, after searching the Smart Computing Tech Support Center, you find you need further assistance, gather a few pieces of information before calling us. If the problem relates to software, make sure you know what version you have (usually available in program's Help menu). If an error message is what ails you, write it down verbatim. Also, be sure you know what operating system you have, and before you call, try rebooting your computer: This will often correct a myriad of problems. These steps will help us to solve your problem quickly and efficiently.

Where's My Piece Of The <*Mrs. Smith's OvenFresh™ Dutch Apple*> Pie?!



You're familiar with the idea of product placement in movies, right? You know, like in "Minority Report," when the camera pans lovingly across the high-tech billboard that subtly flashes "Coca-Cola" in letters 14 feet tall, or when our daring hero races through town in the very cool-looking, futuristic Lexus sports coupe. Or think of the new "Pink Panther" release: It's difficult to find a scene in which adidas, Perrier, or Dell products *aren't* present. (Meanwhile, note that in Sony's "Underworld: Evolution," the most common brands being hawked are those of weapons manufacturers: Beretta, Heckler & Koch, and Walther. I'm sure that means something, but I'm not sure I want to think about it.)

Well, the practice has moved on to video games, as you may have heard. Gamers enjoying the all-out, gut-wrenching racing action of Need For Speed: Most Wanted get to participate in the "Burger King Challenge" (thereby ironically reaffirming the meaning of "gut-wrenching") as they scream past Cingular billboards in virtual Mustangs, Eclipses, and Lamborghini Gallardos. And, just as in the real world of sporting events, participants in EA Sports' FIFA World Cup play on a field festooned with billboards extolling the virtues of Coca-Cola, FujiFilm, and other such sponsors. Then there's Ubisoft's Splinter Cell game, in which the hero enters a room where he sees, for no game- or plot-related reason at all, posters advertising "Batman Begins." Meanwhile, younger kids playing the Sims Online game can grab a virtual Big Mac while wandering around a virtual world littered with virtual Intel logos. (I haven't looked at Electronic Arts' Godfather video game. I'm sort of afraid of the types of product placement I might encounter: Winchester ammunition, the Belkin USB-enabled Blunt Object, the Hello Kitty garrote, etc.)

But wait, there's more! Now product placement is invading software: Microsoft has released ad-supported online versions of its Office products. Yep, you can sign up for the Office Live beta at officelive.microsoft.com. In exchange for agreeing to ~~suffer through~~ . . . er, view ads embedded in the online suite, Microsoft will provide you with online versions of productivity tools and will also supply Web hosting and other such services.

Of course, product placement in software has been with us for years. Ad-supported applications (browsers, email programs, antivirus tools, etc.) have long been a staple in the computing world. But now companies are talking about a whole new business model: What if *all* software were free? Think of it. . . . Whatever you needed: genealogy programs, calendars, word processors, spreadsheets, graphics apps, image editors. All of it free, and all of it shot through with targeted ads. Not a bad deal, really, as long as it's on the up-and-up and as long as you know what you're agreeing to.

But it need not (and probably would not) stop there. It's one thing for a bank's banner ad to appear at the top of your personal finance app. But what if the software began "recommending" that you deal only with certain banks? What if the program *insisted* that you work only with Wells Fargo or Bank Of America? Or what if your photo editor simply refused to print unless it was connected to an HP printer? Yikes.

That's not what worries me, though. What *really* scares me is that it turns out that "product placement" is a huge industry, a $4 billion pie, and I'm not getting any of it!

I can be bought. (I figure we're all willing to sell out, ultimately; it's really just a question of price.) After all, I sit here slaving away at my <*HON Perpetual™ Workstation*> desk, typing on an <*IBM ThinkPad*> computer hour after <*America runs on Bulova time*> hour, constantly being interrupted by the ringing of a <*Cisco Systems 7940 Series IP*> phone or by appointment reminders chirping out of my <*Palm Treo 650*> smartphone or by static-ridden announcements echoing from the <*Muzak From Hell*> P.A. system we have here in the office. It's enough to make me want to strangle someone with my <*Tommy Hilfiger*> necktie. And it wouldn't really be all that disruptive, I don't think. You can read <*Thank a teacher!*> this pretty well on your <*ViewSonic*> monitor, can't you? Or, if you picked up the print version at a <*Larry's*> corner newsstand, perhaps you're now relaxed <*Take Sominex tonight, and sleep. . .*> and comfortable in your cushy <*Barcalounger*>, reading this while drinking a cold, refreshing bottle of <*Budweiser*> beer and snacking on some mouthwatering Korean War-surplus <*Vienna Sausage*>. Say, this isn't too intrusive, is it?

I asked my <*beautiful, talented*> wife about selling ad slots in my column, and she thought it was a great idea, although I did have to agree to give her quite a discount. ❚

BY ROD SCHER

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